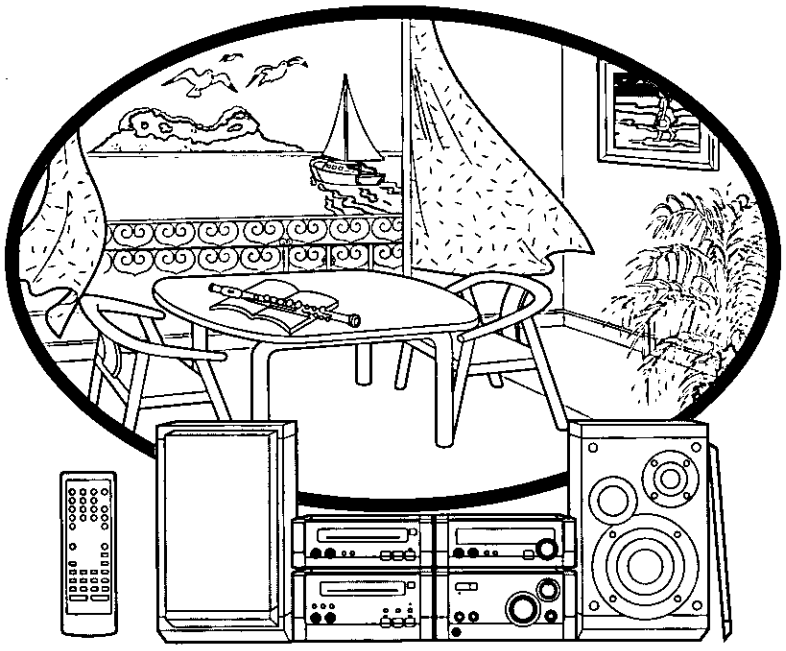
Technics®

System Component

SC-HD505

Operating Instructions



COMPACT disc DIGITAL AUDIO TEXT

Before connecting, operating or adjusting this product, please read these instructions completely. Please save this manual.

PP

RQT4934-P

Dear Customer

Thank you for purchasing this system.
For optimum performance and safety, please read these instructions carefully.

System	SC-HD505
Amplifier	SE-HD505
Tuner	ST-HD505
CD player	SL-HD505
Cassette deck	RS-HD505
Speakers	SB-HD505

User memo:

DATE OF PURCHASE _____
DEALER NAME _____
DEALER ADDRESS _____
_____
TELEPHONE NUMBER _____

The model number and serial number of this product can be found on either the back or the bottom of the unit.
Please note them in the space provided below and keep for future reference.

MODEL NUMBER _____

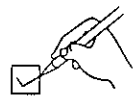
SERIAL NUMBER _____

CAUTION!
THIS PRODUCT UTILIZES A LASER.
USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.
DO NOT OPEN COVERS AND DO NOT REPAIR YOURSELF. REFER SERVICING TO QUALIFIED PERSONNEL.

WARNING:
TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK OR PRODUCT DAMAGE, DO NOT EXPOSE THIS APPLIANCE TO RAIN, SPLASHING, DRIPPING OR MOISTURE.

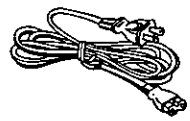
CAUTION:
TO PREVENT ELECTRIC SHOCK MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.

Supplied accessories



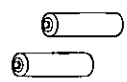
Please check and identify the supplied accessories.

☐ **AC power supply cord (RJA0065-K) ..... 1 pc.**

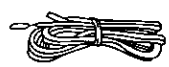


☐ **Remote control transmitter (RAK-HDA10WH) ..... 1 pc.**

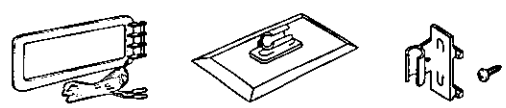
☐ **Remote control batteries ..... 2 pcs.**



☐ **FM indoor antenna (RSA0006) ..... 1 pc.**



☐ **AM loop antenna set (RSA0021) ..... 1 pc.**



☐ **Speaker cords**
- Red and black (REE0499) ..... 2 pcs.
- Blue and gray (REE0853) ..... 2 pcs.

Use numbers indicated in parentheses when asking for replacement parts.

(Only for U.S.A.)
To order accessories contact 1-800-332-5368 or web site (http://www.panasonic.com).

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THE FOLLOWING APPLIES ONLY IN THE U.S.A.

CAUTION:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules.
These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Any unauthorized changes or modifications to this equipment would void the user's authority to operate this device.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE SCREWS. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Before using this unit please read these operating instructions carefully. Take special care to follow the warnings indicated on the unit itself as well as the safety suggestions listed below.
Afterwards keep them handy for future reference.

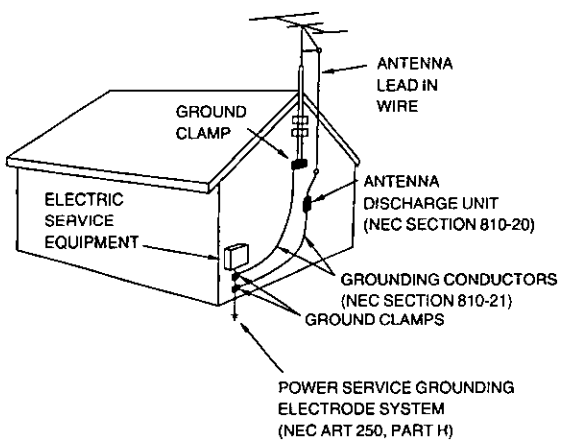
Safety

1. **Power Source** — The unit should be connected to power supply only of the type described in the operating instructions or as marked on the unit.
2. **Polarization** — If the unit is equipped with a polarized AC power plug (a plug having one blade wider than the other), that plug will fit into the AC outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.
3. **Power Cord Protection** — AC power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them. Never take hold of the plug or cord if your hand is wet, and always grasp the plug body when connecting or disconnecting it.
4. **Nonuse Periods** — When the unit is not used, turn the power off. When left unused for a long period of time, the unit should be unplugged from the household AC outlet.

Installation

Environment

1. **Outdoor Antenna Grounding** — If an outside antenna is connected to the receiver, be sure the antenna system is grounded so as to provide some protection against voltage surges and built-up static charges. Section 810 of the National Electrical Code, ANSI/NFPA No. 70–1990, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See figure below.



NEC—NATIONAL ELECTRICAL CODE

2. **Water and Moisture** —Do not use this unit near water—for example, near a bathtub, washbowl, swimming pool, or the like. Damp basements should also be avoided.
3. **Heat** —The unit should be situated away from heat sources such as radiators and the like.
   It also should not be placed in temperatures less than 5°C (41°F) or greater than 35°C (95°F).
4. **Condensation** —Moisture may form on the lens in the following conditions...
   - immediately after a heater has been turned on.
   - in a steamy or very humid room.
   - when the unit is suddenly moved from a cold environment to a warm one.

   If moisture forms inside this unit, it may not operate properly. To correct this problem, turn on the power and wait about one hour for the moisture to evaporate.

Placement

1. **Ventilation** —The unit should be situated so that its location or position does not interfere with its proper ventilation. Allow 10 cm (4") clearance from the rear of the unit.
2. **Foreign Material** —Care should be taken so that objects do not fall into and liquids are not spilled into the unit. Do not subject this unit to excessive smoke, dust, mechanical vibration, or shock.
3. **Magnetism** —The unit should be situated away from equipment or devices that generate strong magnetic fields.
4. **Stacking** —Do not place heavy objects, other than system components, on top of the unit.
5. **Surface** —Place the unit on a flat, level surface.
6. **Carts and Stands** —The unit should be used only with a cart or stand that is recommended by the manufacturer. The unit and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the unit and cart combination to overturn.

7. **Wall or Ceiling Mounting** —The unit should not be mounted to a wall or ceiling, unless specified in this operating instructions.

Maintenance

(See page 26 for details.)

Clean the cabinet, panel and controls with a soft cloth lightly moistened with mild detergent solution.
Do not use any type of abrasive pad, scouring powder or solvent such as alcohol or benzine.

Service

1. **Damage Requiring Service** — The unit should be serviced by qualified service personnel when:
   (a) The AC power supply cord or the plug has been damaged; or
   (b) Objects have fallen or liquid has been spilled into the unit; or
   (c) The unit has been exposed to rain; or
   (d) The unit does not appear to operate normally or exhibits a marked change in performance; or
   (e) The unit has been dropped, or the enclosure damaged.
2. **Servicing** — The user should not attempt to service the unit beyond that described in the operating instructions. All other servicing should be referred to an authorized service personnel.
   For the address of an authorized servicenter:
   In the U.S.A. 1-800-211-7262 or web site (http://www.panasonic.com)
   In Canada 905-624-5505 or web site (www.panasonic.ca)

The remote control

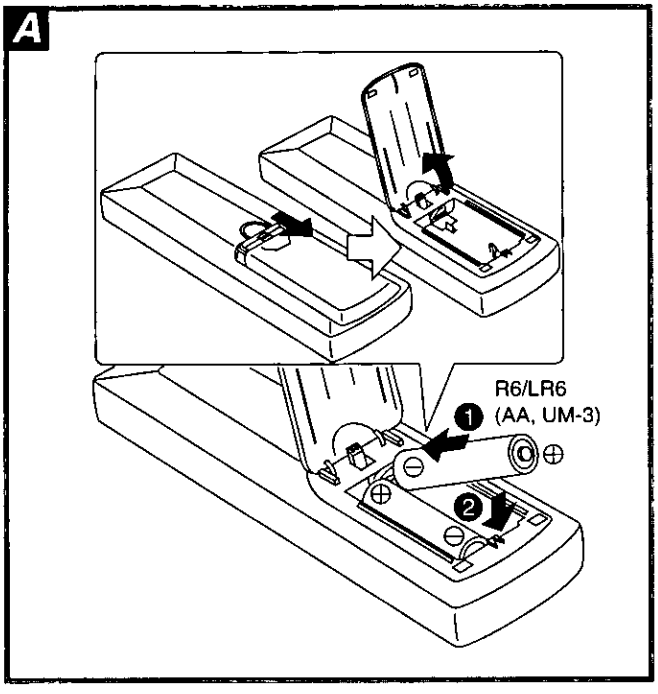
A Batteries

Insert so the poles (+ and –) match those in the remote control.
Do not;
- mix old and new batteries.
- use different types at the same time.
- heat or expose to flame.
- take apart.
- short circuit.
- attempt to recharge alkaline or manganese batteries.

Mishandling of batteries can cause electrolyte leakage which can damage items the fluid contacts and may cause a fire.
If electrolyte leaks from the batteries, consult your dealer.
Wash thoroughly with water if electrolyte comes in contact with any part of your body.

Do not use rechargeable type batteries.
Remove if the remote control is not going to be used for a long period of time. Store in a cool, dark place.
Replace if the unit does not respond to the remote control even when held close to the front panel.

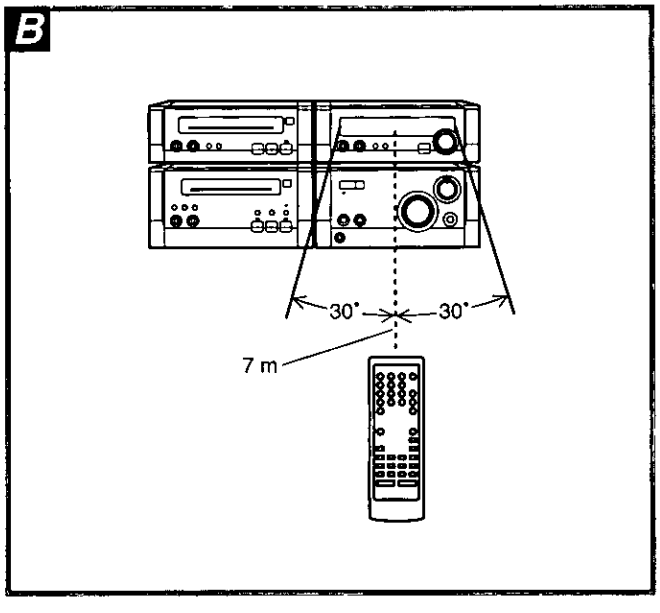
If the battery lid comes loose, slide it back into place horizontally.



B Use

Aim at the sensor, avoiding obstacles, at a maximum range of 7 meters (23 feet) directly in front of the unit.
- Keep the transmission window and the unit's sensor free from dust.
- Operation can be affected by strong light sources, such as direct sunlight, and the glass doors on cabinets.

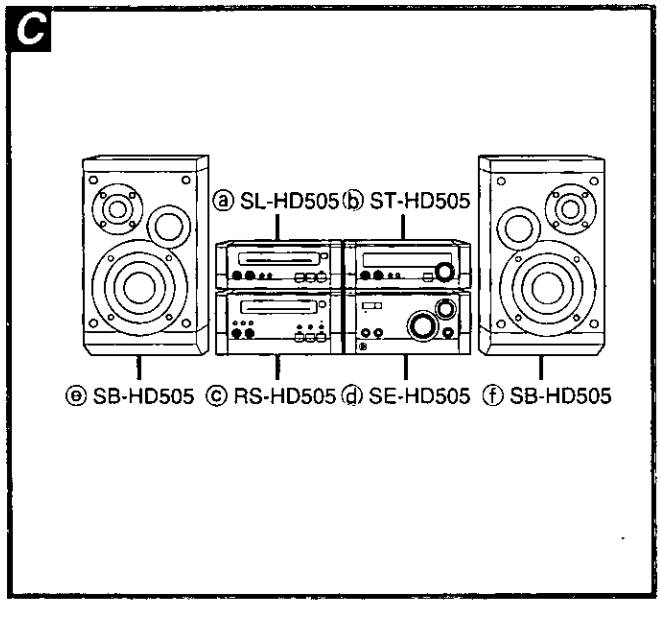
Do not;
- put heavy objects on the remote control.
- take the remote control apart.
- spill liquids onto the remote control.



C Installation

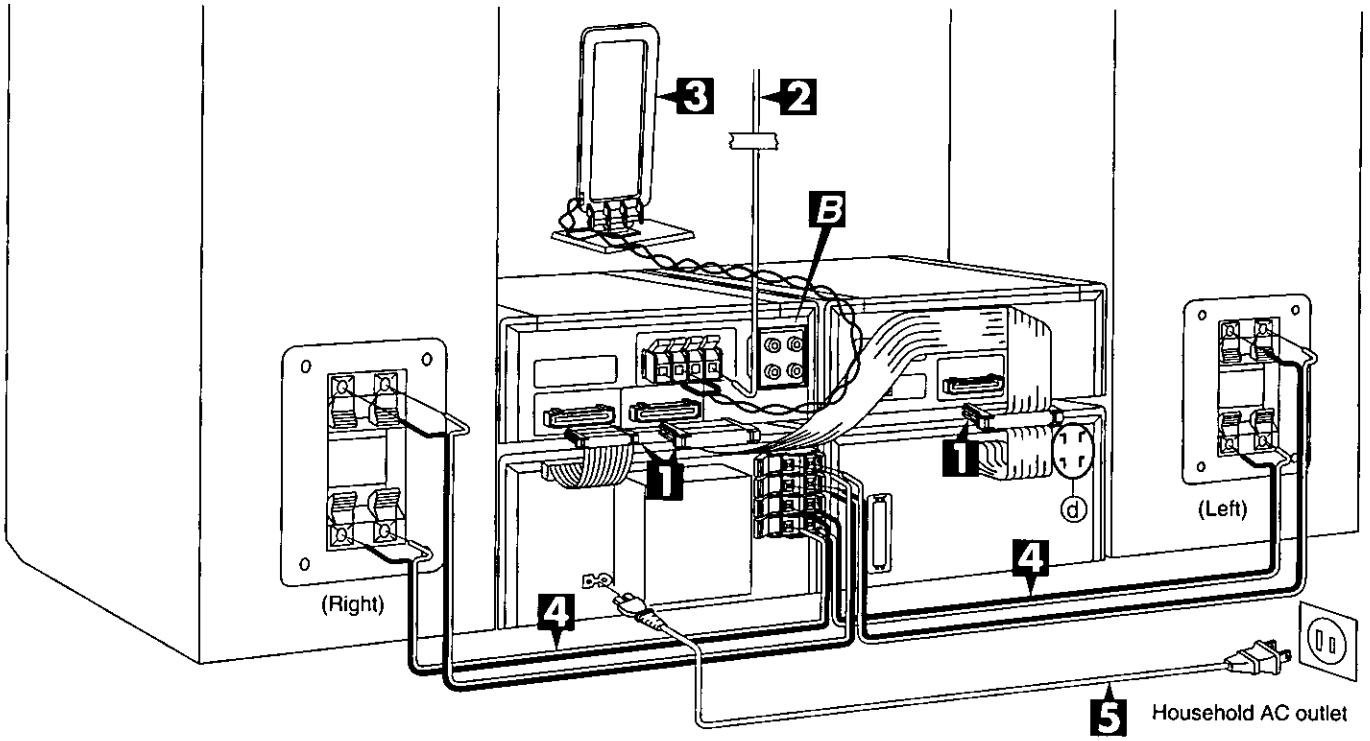
ⓐ CD player
ⓑ Tuner
ⓒ Cassette deck
ⓓ Amplifier
ⓔ Left speaker
ⓕ Right speaker

Note
- Do not put the CD player on the amplifier. Heat from the amplifier can damage your CDs.
- Keep your speakers at least 10 mm (13/32") away from the system for proper ventilation.



Caution
- **Use the speakers only with the recommended system. Failure to do so can damage the amplifier and speakers, and can cause fire. Consult a qualified service person if damage occurs or if a sudden change in performance is apparent.**
- **Do not attach these speakers to walls or ceilings.**

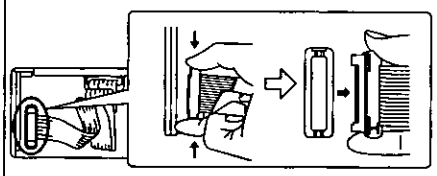
These speakers are designed to be used close to a television, but the picture may be affected in some cases. If this occurs, turn the television off for about 30 minutes. The television's demagnetizing function should correct the problem. If it persists, move the speakers further away from the television.



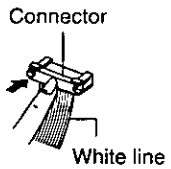
A

ⓐ

ⓑ

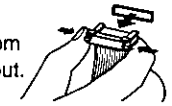


1 **To connect cables**

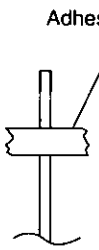


To unplug cables

Hold the connector from both ends and pull it out.

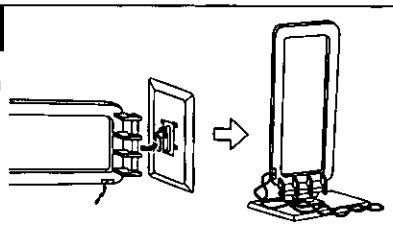


2



3

ⓒ



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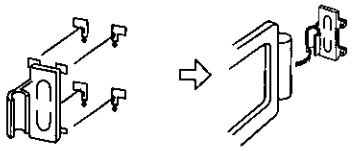

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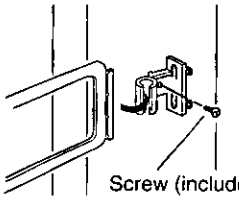

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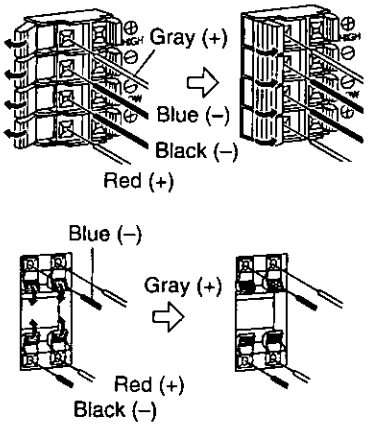

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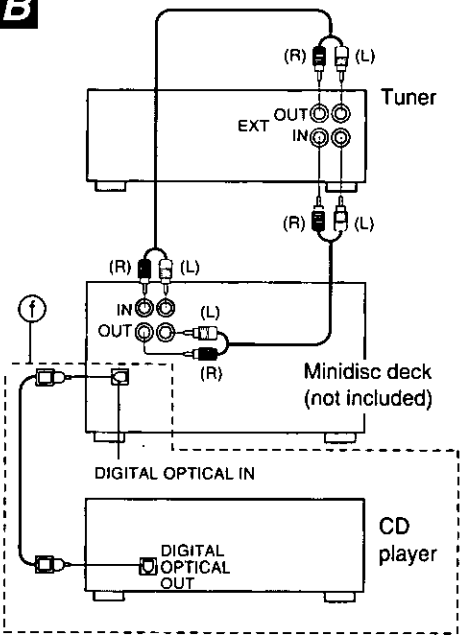


Basic connections for supplied accessories

A Before connection

- Do not connect the AC power supply cord until all other connections are complete.
- To prepare the AM loop antenna, FM indoor antenna, and speaker cables, twist the vinyl tip and pull off (ⓐ).
- Disconnect the flat cable on the cassette deck (ⓑ).

1 Flat cables.

Keep the cables as flat as possible against the back of the unit.

2 FM antenna.

Fix the other end of the antenna where reception is best.

3 AM loop antenna.

Attach to the supplied antenna stand (ⓒ), or use the other holder and attach to the back of the cassette deck (ⓓ), a wall or pillar (ⓔ).

Keep loose antenna cord away from other wires and cords.

4 Speaker cables.

Connect the cables to the terminals of the same color. Never allow the exposed wires to contact each other when connected.

Use only the supplied speakers.
The combination of the system and the front speakers provides the best sound. Using other speakers can damage the unit and sound quality will be negatively affected.

5 Connect the AC power supply cord

For your reference
Information you enter into the unit's memory, except for time, remains intact for up to two weeks after the power supply cord is disconnected.

B External unit connections

- Turn off the power to all units before making connections.
- Refer to the manual of the other unit for details. (Cables and equipment not included.)

Connect other equipment to the EXT IN terminals to output sound through this unit's speakers or to record onto the cassette deck. Connect this unit to other equipment through the EXT OUT terminals to record onto another cassette deck or to output sound from this unit through the other unit.

Stereo connection cable (not included)
White (L)
Red (R)

Connections to DIGITAL OPTICAL OUT (ⓕ):
Use an optical fiber cable to connect to a minidisc deck.
Remove the dust cap before use.

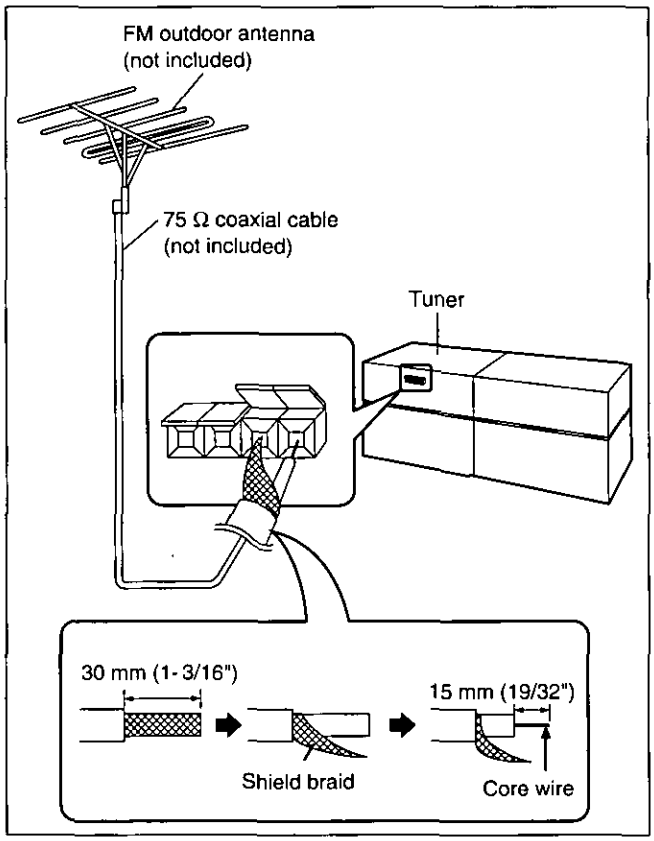
Optional antenna connections

Use outdoor antennas if radio reception is poor.

FM outdoor antenna

Note

- Disconnect the FM indoor antenna.
- The antenna should be installed by a competent technician.

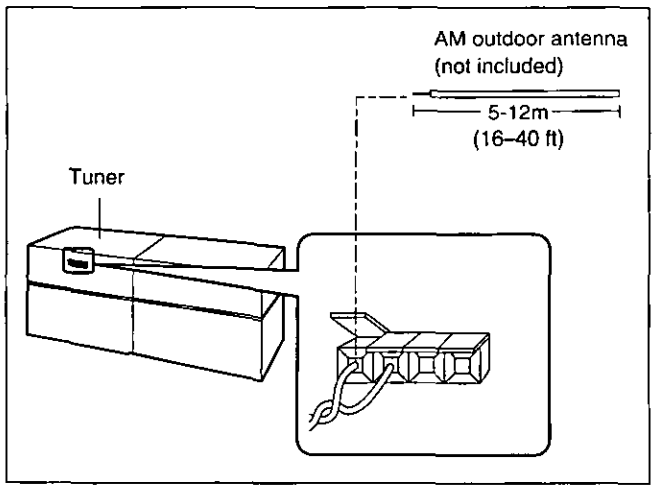


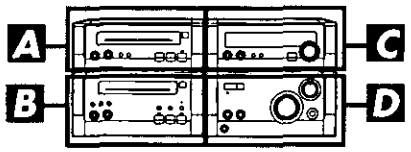
AM outdoor antenna

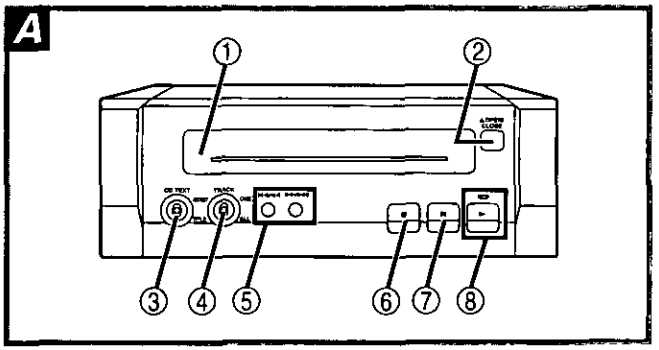
Run a piece of vinyl wire horizontally across a window or other convenient location.

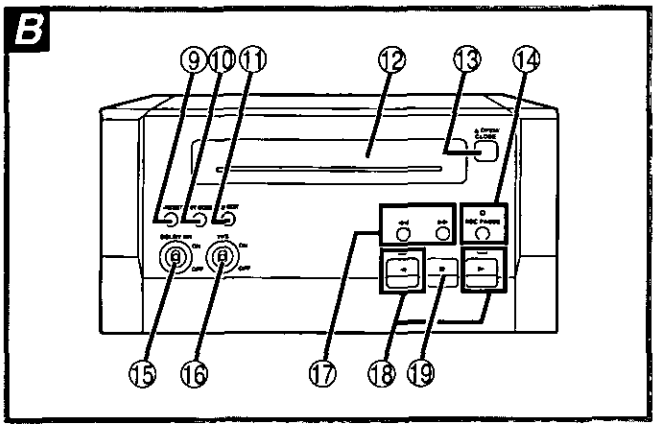
Note

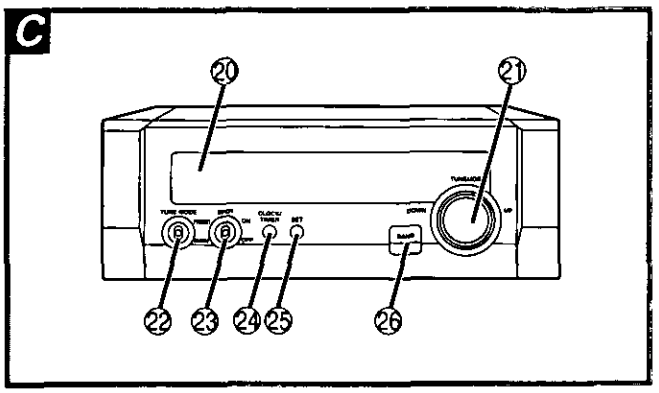
- Leave the loop antenna connected.
- Disconnect the antenna when the unit is not in use. Do not use the antenna during an electrical storm.

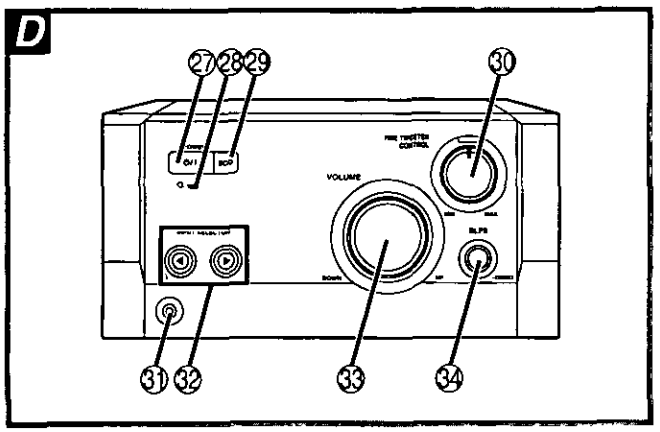












Front panel controls

A CD player

① **Disc tray**
② **Disc tray open/close button (▲ OPEN/CLOSE)** 11
③ **CD TEXT switch (CD TEXT)** 12
④ **One track/all tracks switch (TRACK)** 11
⑤ **Skip/search buttons (|◀◀ / ◀◀ , ▶▶ / ▶▶|)** 11
⑥ **Stop button (■)** 11
⑦ **Pause button (▮▮)** 11
⑧ **Play button and indicator (▶)** 11
The color of the indicator depends on the operation taking place.
If stopped: orange
If playing: green

B Cassette deck

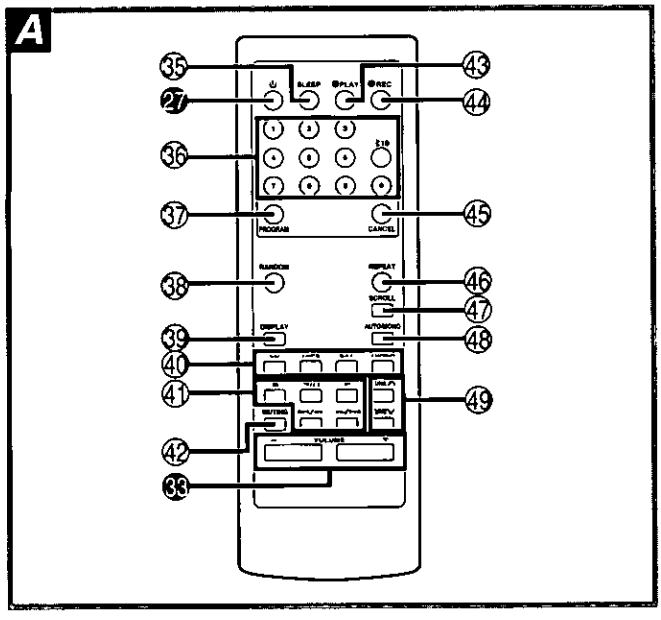
⑨ **Counter reset button (C-RESET)** 17
⑩ **Reverse mode select button (REV MODE)** 16
⑪ **CD edit recording button (CD EDIT)** 20
⑫ **Cassette holder**
⑬ **Cassette tray open/close button (▲ OPEN/CLOSE)** 16
⑭ **Record pause button and indicator (REC PAUSE)** 19
⑮ **Dolby noise reduction switch (DOLBY NR)** 16
⑯ **Tape Program Sensor switch (TPS)** 17
⑰ **Fast forward/rewind buttons (◀◀ , ▶▶)** 17
⑱ **Playback buttons and indicators (◀ , ▶)** 16
The color of the indicator depends on the operation taking place.
If stopped, fast forwarding or rewinding: orange
If playing, recording, or carrying out TPS: green
⑲ **Stop button (■)** 16

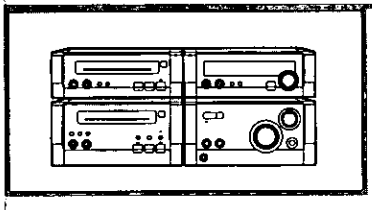
C Tuner

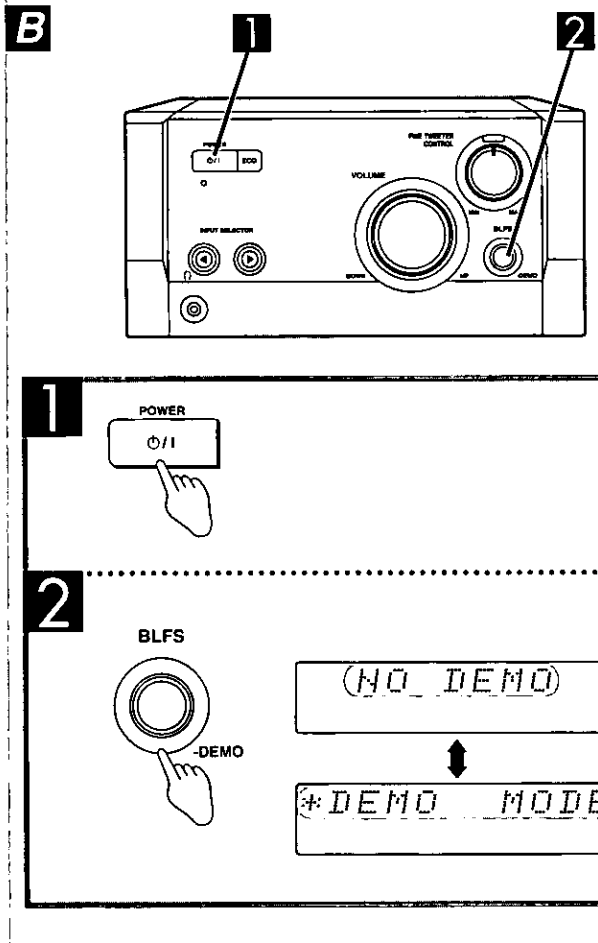
⑳ **Display panel**
The display also shows information for the cassette deck, CD player, and amplifier.
㉑ **Station selection and JOG dial (TUNE/JOG)** 10, 14
㉒ **Tuning mode switch (TUNE MODE)** 14
㉓ **Sidelight switch (SPOT)** 24
㉔ **Clock/timer button (CLOCK/TIMER)** 10, 21
㉕ **Set button (SET)** 10
㉖ **Band select button (BAND)** 14

D Amplifier

㉗ **Standby/on switch (⏻/I)** 9
Press to switch the unit from on to standby mode or vice versa.
In standby mode, the unit is still consuming a small amount of power.
㉘ **Standby indicator**
When the unit is connected to the AC power supply, this indicator lights up in standby mode and goes out when the unit is turned on.
㉙ **ECO button (ECO)** 10
㉚ **Fine tweeter control (FINE TWEETER CONTROL)** 24
㉛ **Headphone jack (∩)** 25
㉜ **Input selector (INPUT SELECTOR)** 25
㉝ **Volume control (VOLUME)** 11
㉞ **Bass, demo button (BLFS, –DEMO)** 9, 24







A Remote control

Buttons ㉗ and ㊸ function in the same way as the controls on the main unit.

㉟ **Sleep timer button (SLEEP)** 23
㊱ **Numbered buttons** 12
㊲ **Program button (PROGRAM)** 13
㊳ **Random button (RANDOM)** 12
㊴ **Display select button (DISPLAY)** 18
㊵ **Input select buttons (CD, TAPE, EXT, TUNER)** 12, 15, 17, 25
㊶ **Basic operating buttons**
Function changes according to the source.
㊷ **Muting button (MUTING)** 24
㊸ **Play timer button (◴ PLAY)** 21
㊹ **Record timer button (◴ REC)** 22
㊺ **Cancel button (CANCEL)** 13
㊻ **Repeat button (REPEAT)** 12
㊼ **Scroll button (SCROLL)** 12
㊽ **FM mode button (AUTO/MONO)** 14
㊾ **Tuning buttons (TUNE ∧, TUNE ∨)** 14

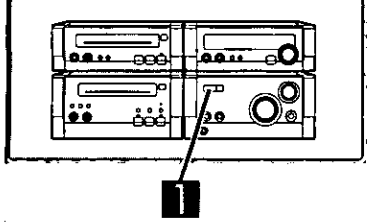
B Turning the DEMO function off

If the clock has not been set, a demonstration of the display is shown when the unit is off.
This function is set to on at the time of purchase.

To get the most from ECO mode (➡ page 10), turn this function off.

1 Press [⏻/I] to turn the unit on.

2 Press and hold [BLFS, –DEMO] until "NO DEMO" is displayed.
Each time you press and hold the button:
NO DEMO (off) ⇄ DEMO MODE (on)



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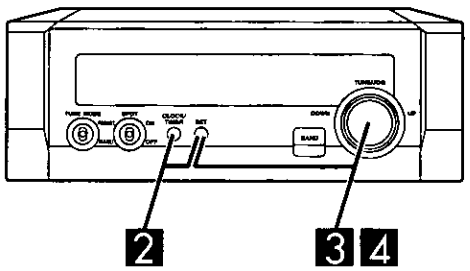
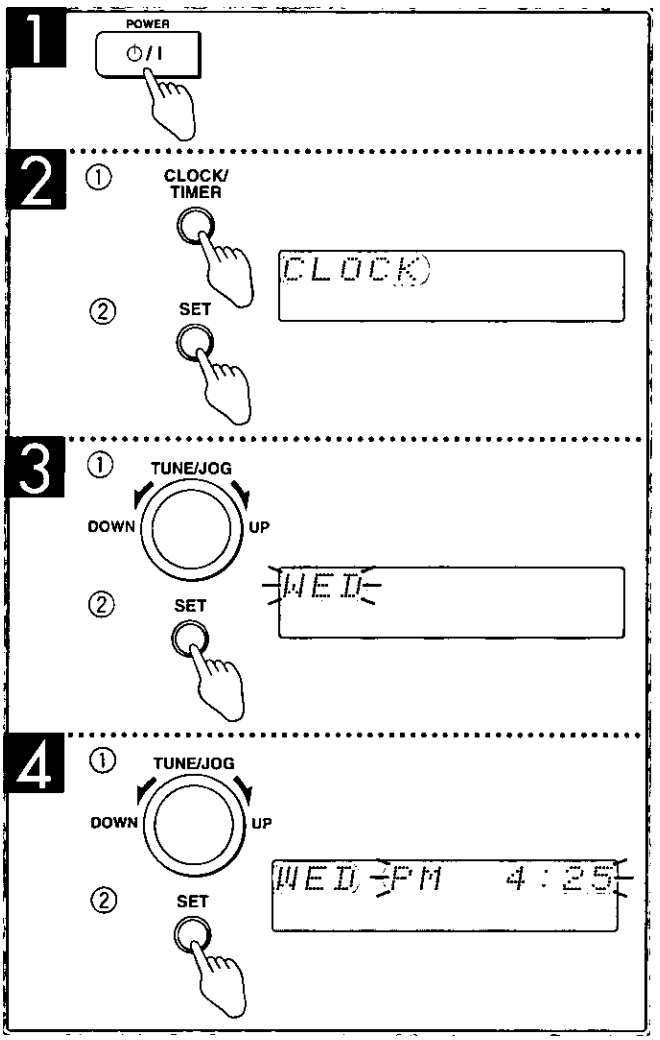
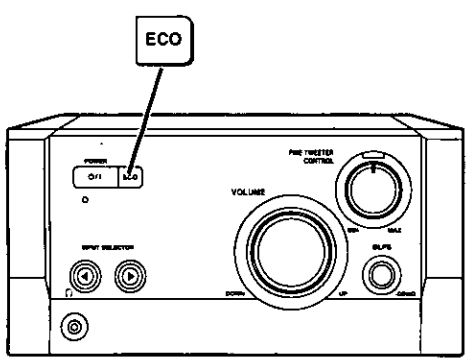




B



A Setting the time

This is a 12-hour clock.

The example shows how to set the clock for Wednesday, 4:25 pm.

1 Press [⏻/I] to turn the unit on.

2 ① Press [CLOCK/TIMER] to display "CLOCK."

Each time you press the button:

CLOCK → PLAY → REC → Original display

② Within 7 seconds

Press [SET].

3 ① Turn [TUNE/JOG] to set the day.

② Press [SET].

4 ① Turn [TUNE/JOG] to set the time.

② Press [SET].

The time is set and the original display is restored.

Displaying the clock

Press [CLOCK/TIMER].

The clock is shown for about 5 seconds.

B ECO mode

When this mode is turned on, the clock is not displayed when the unit is in standby mode, thereby reducing standby mode power consumption from 9 W to 0.8 W. The standby indicator still lights.

Note

Turn DEMO off. ECO does not work when DEMO is on.

Turning ECO on and off:

① Press [ECO].

The current mode is displayed.

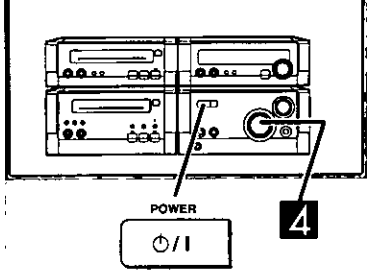
② Within 2 seconds

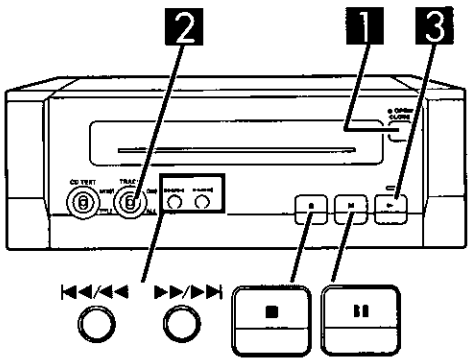
Press [ECO] again.

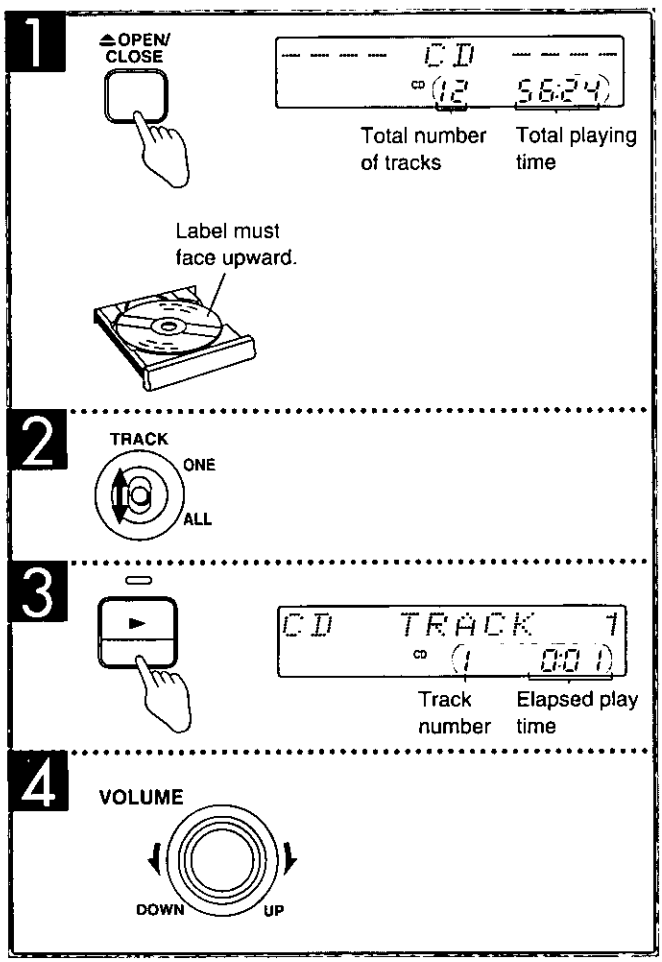
Each time you press the button:

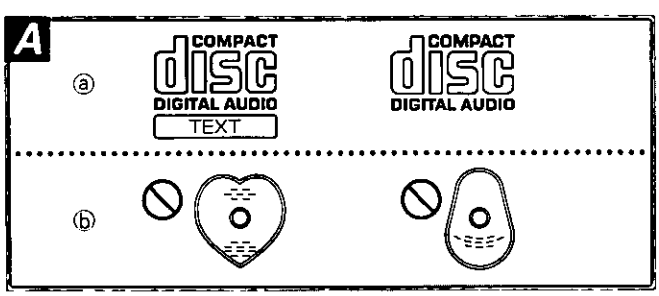
NORMAL (off) ⇄ ECO (on)

The mode can be switched to ECO when the unit is off but it can not be switched back to NORMAL.









Normal Play

Preparation: turn the unit on.

1 Press [▲ OPEN/CLOSE] to open the tray.

Set a CD label up on the tray.
Press [▲ OPEN/CLOSE] to close the tray.

The number of tracks and playing time is displayed if "CD" is selected as the source.

2 Select "ALL" or "ONE" with [TRACK].

ALL: all tracks are played.
ONE: one track is played.

3 Press [▶] to start play.

4 Adjust the volume.

To stop the disc
Press [■].

To pause play
Press [❚❚] during play. Press [❚❚] or [▶] to resume play.

Skipping tracks
Press [⏮/◀◀] (backward), or [▶▶/⏭] (forward).

Searching through tracks
During play
Press and hold [⏮/◀◀] (backward), or [▶▶/⏭] (forward).

"NO DISC" is displayed
When the unit is in CD mode but a disc isn't in the player.

Note

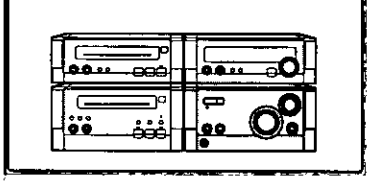
- You cannot skip to tracks already played in random play. (➡ page 12).
- Skipping is done in the selected order in program play. (➡ page 13).
- You can search only within tracks in random and program play.

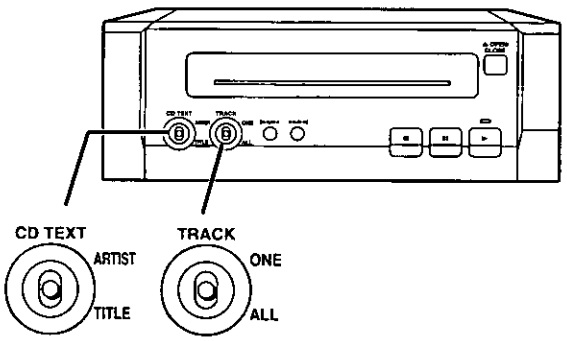
A CD selection

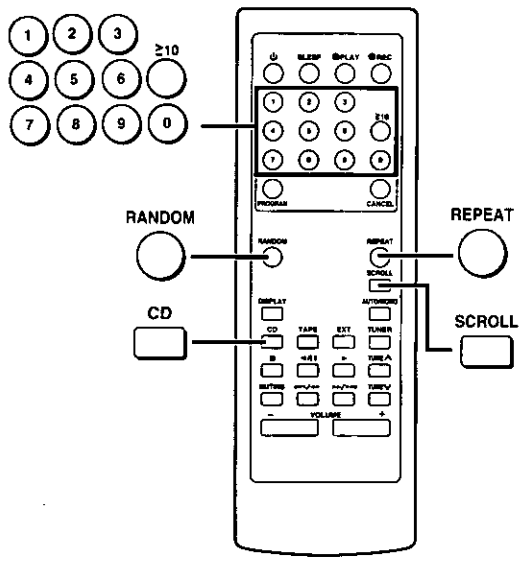
Choose discs with these marks: (ⓐ)

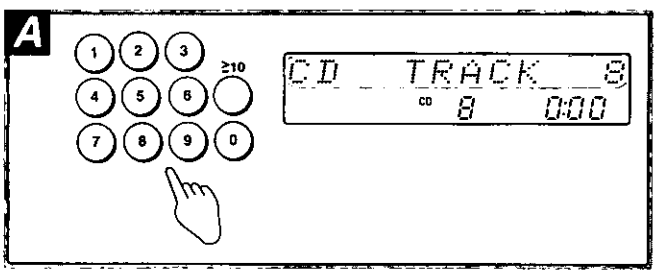
Do not

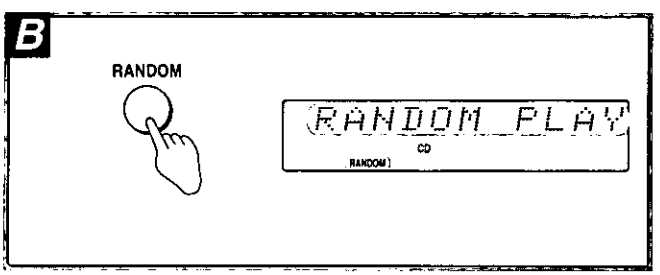
- use irregularly shaped discs (ⓑ).
- use discs that have extra labels or stickers attached. (Carefully remove leftover adhesive before use.)
- attach scratch-proof covers or any other kind of accessory.
- write anything on the CD.
- clean CDs with liquids. (Wipe with a soft, dry cloth.)

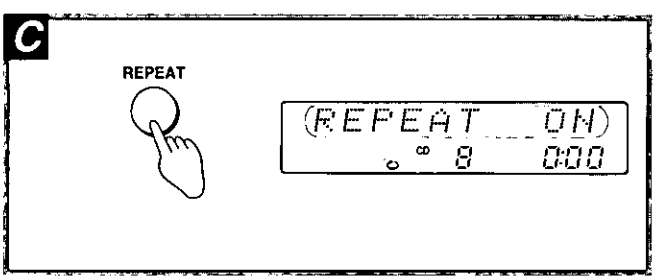












CDs

One touch play

Remote control only

When a CD is loaded and the unit is off, press [CD].
The unit comes on and starts play.

CD text discs

This unit reads and displays the information on these discs.
Display the album title or the artist's name.

Select either "TITLE" or "ARTIST" with [CD TEXT].

Scrolling the text

Press [SCROLL] on the remote control.
"SCROLL ON" is shown and the selected information scrolls across the display.
Press [SCROLL] again to cancel.

Scroll does not work if the text is less than 12 letters.

Other modes of play

Remote control only

Preparation:
Press [CD] to put the unit in CD mode.

A Direct access play:
Starts normal play from a selected track

Select the track with the numbered buttons.
For tracks numbered 10 and over, press [≥10] then the two digits.

B Random play:
Plays the tracks once each in random order

Press [RANDOM].

To cancel

Press [RANDOM].
"RANDOM" goes out.

C Repeat play:
Repeats all tracks or programmed tracks

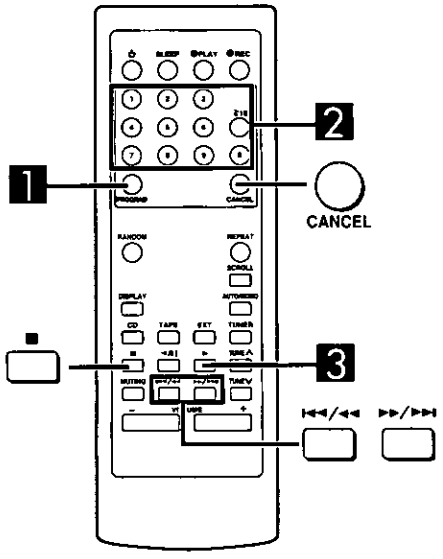
Press [REPEAT] before or during play.

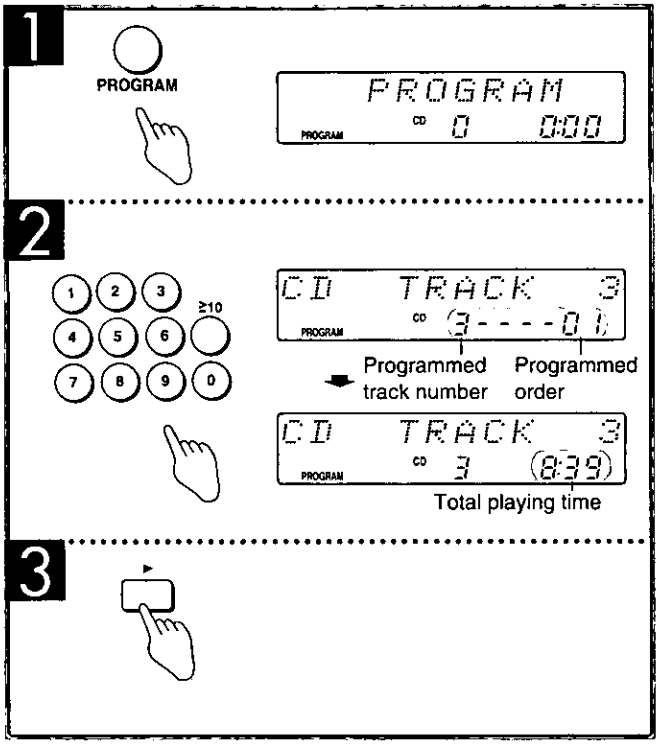
To cancel

Press [REPEAT].
"↻" goes out.

Repeating one track

1. Select "ONE" with [TRACK].
2. Press [REPEAT] to display "↻".
3. Select the track with the numbered buttons.





Program play:
Select up to 24 tracks to play in the order you choose

Preparation
Press [CD] to put the unit in CD mode.

1 Press [PROGRAM].

2 Enter the track number with the numbered buttons.
For tracks numbered 10 and over, press [≥10] then the two digits.
Repeat this step to program the tracks in the required order.

3 Press [▶].
All the tracks are played in the selected order.

To cancel
Press [PROGRAM].
"CLEAR" is displayed and all the tracks are canceled. If a track was playing, play continues to the end of the CD.

"FULL" is displayed
If 24 tracks have been programmed.

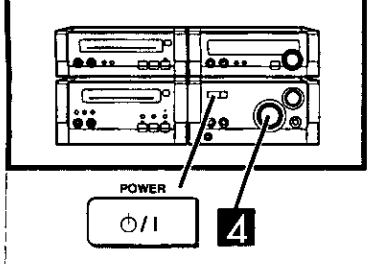
"– –:– –" is displayed
If total playing time for the tracks is over 199 minutes and 59 seconds, or a track numbered 25 or over was programmed. Tracks can still be programmed and played.

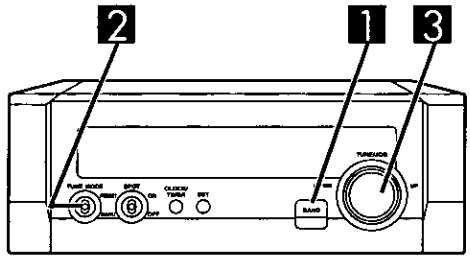
To check the contents of the program
Press [⏮/◀◀] or [▶▶/⏭] while stopped. The track numbers and program positions are displayed in order.

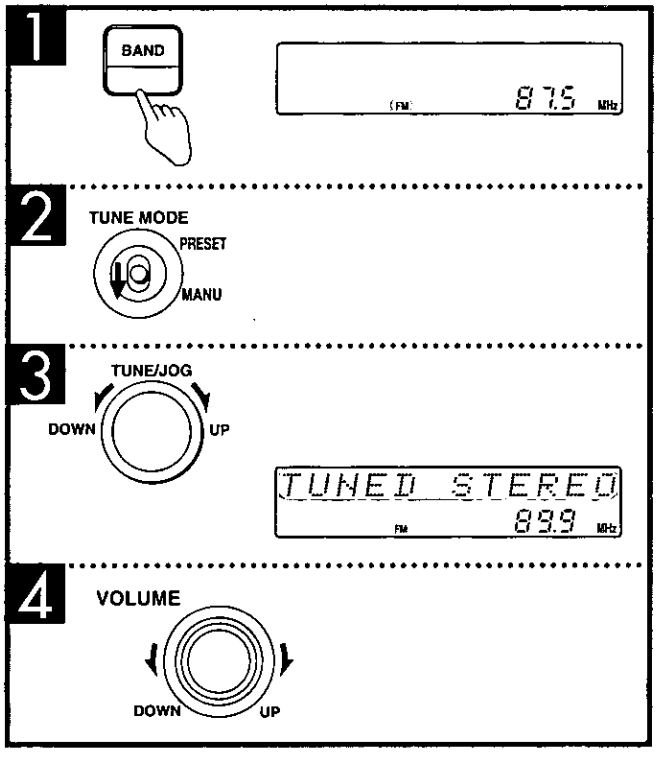
To add to the end of the program
Repeat step 2.

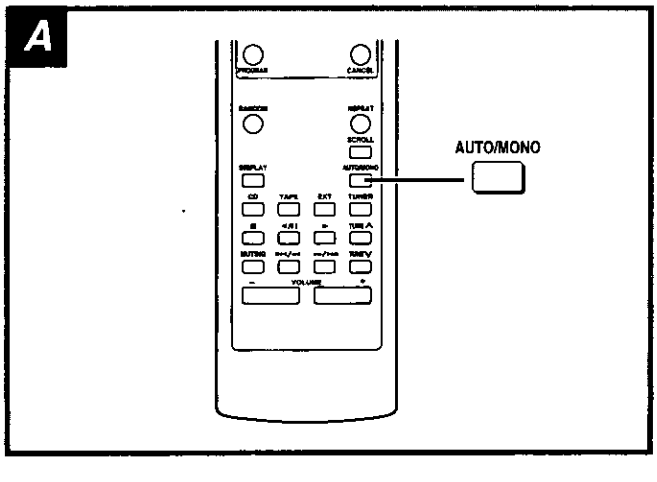
Canceling tracks (only while stopped)

From the last track	Press [CANCEL]. "CANCEL" is displayed.
A particular track	Select the track with [⏮/◀◀] or [▶▶/⏭] then press [CANCEL].
All tracks	Press [■]. Program play is also cleared.









The Radio: manual tuning

Radio stations can be tuned manually by selecting the station's frequency or they can be preset into channels to make it easy to tune with the remote control (➡ page 15).

Preparation: Turn the unit on.

1 **Press [BAND] to select FM or AM.**
Each time you press the button:
FM ⇄ AM.

2 **Select "MANU" with [TUNE MODE].**

3 **Turn [TUNE/JOG] to select the frequency of the required station.**
"TUNED" is displayed when a radio station is tuned.
"STEREO" is displayed when a stereo FM broadcast is being received.

4 **Adjust the volume.**

Auto tuning
Press and hold [TUNE ∧] or [TUNE ∨] on the remote control for a moment until the frequency starts changing rapidly. The unit begins auto tuning, stopping when it finds a station.

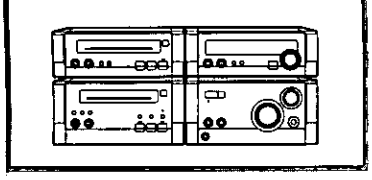
A If noise is excessive in FM

Remote control only
Press [AUTO/MONO] to display "MONO."
Each time you press the button:
AUTO ⇄ MONO
This mode improves sound quality if reception is weak for some reason but broadcasts are heard in monaural.
Press [AUTO/MONO] again to cancel the mode.
MONO is also canceled if the frequency is changed.

Leave the tuner in AUTO for normal listening. Stereo and monaural broadcasts are automatically played as they are received.

FM frequency step
The step is set to 0.2 MHz at the factory. It can be changed to enable the tuner to receive stations broadcast in 0.1 MHz steps.
Any FM frequencies that have been preset will be changed by this procedure. Be sure to carry out presetting again.
Press and hold [BAND]. The display changes in a few seconds to show the current lowest FM frequency. Continue to hold down the button. The minimum frequency changes and the step is changed at the same time.

Repeat this procedure to change the step back.



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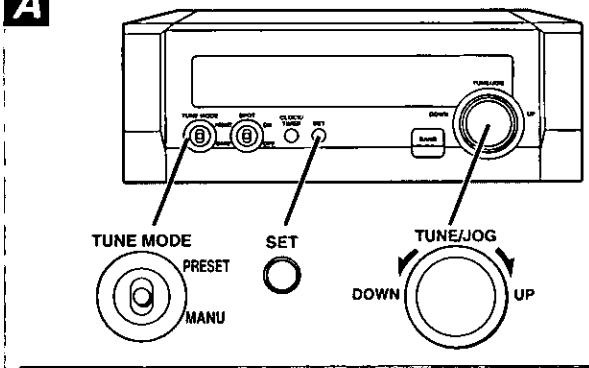

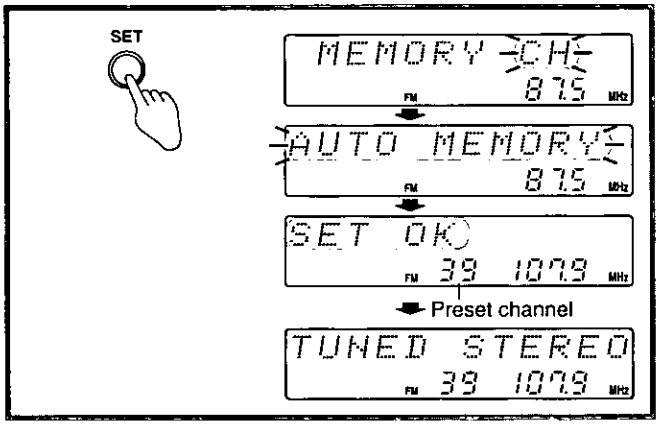

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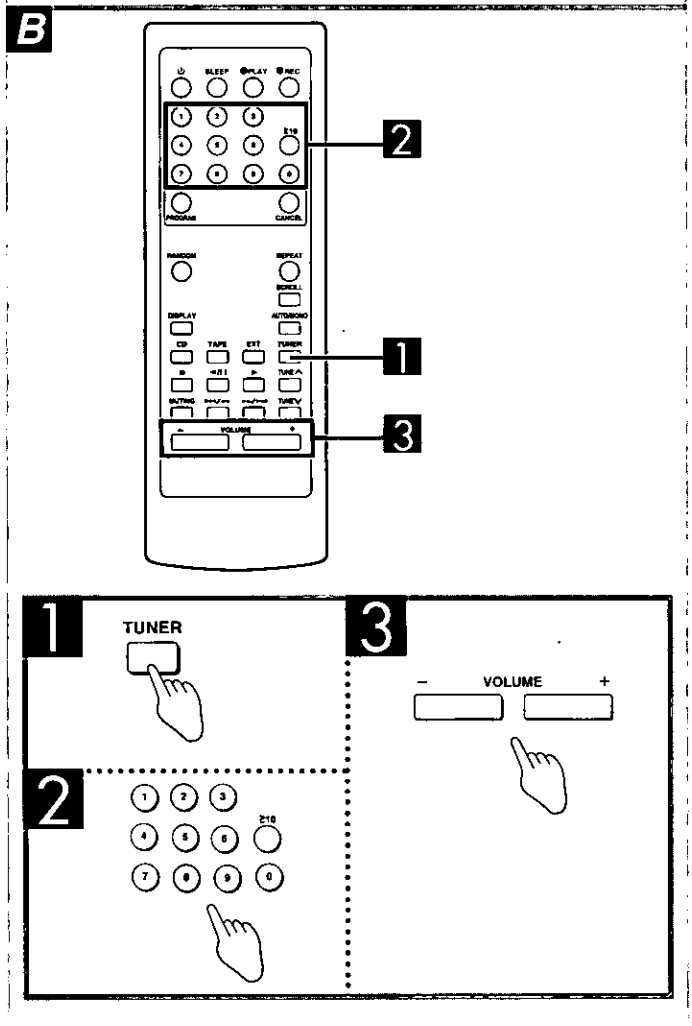


The Radio: preset tuning

Choose either automatic presetting, which presets all the stations the tuner can receive, or manual presetting, which allows you to select the stations to preset and the order they are to be preset in. There are 39 channels available for presetting.

A Automatic presetting

Do the following once each for FM and AM.
Preparation: Tune to the frequency where presetting is to begin. (➡ page 14).

Hold down [SET].

Release the button when "AUTO MEMORY" appears.
The tuner presets all the stations it can receive into the channels in ascending order. FM stations are preset into channels 1 to 39, and AM stations are preset into channels 21 to 39.
"SET OK" is shown when presetting is complete and the last station to be preset is played.
"ERROR" is displayed if the tuner doesn't receive any stations. Do presetting manually if this happens (see below).

Note

AM stations replace any FM channels that were preset in channels 21 to 39.

Manual presetting

Preset the stations one at a time.

① **Tune to the required station.**
② **Press [SET].**
③ **Turn [TUNE/JOG] to select a channel.**
④ **Press [SET].**

The station occupying a channel is erased if another station is preset in that channel.

B Selecting channels

On the remote control

1 Press [TUNER].

The unit automatically comes on.
Press again to change the band.

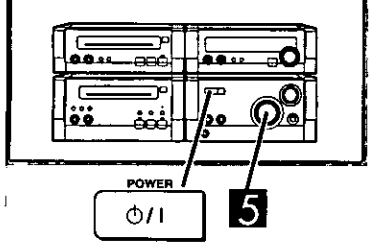
2 Press the numbered buttons to select the channel.

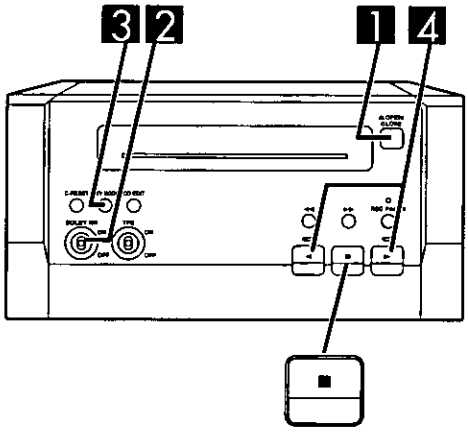
For channels 1 to 9 press the corresponding number.
For channels 10 or over press [≥10], then the two digits.
e.g. To select channel 21 [≥10] → [2] → [1]

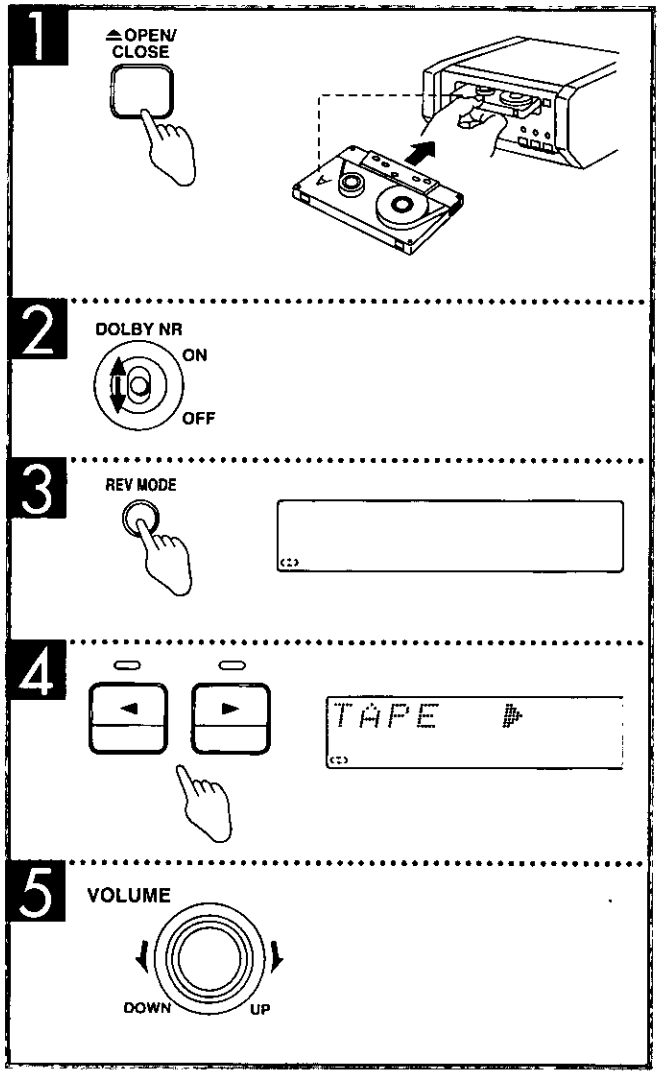
3 Adjust the volume.

On the main unit

1. Select "PRESET" with [TUNE MODE].
2. Turn [TUNE/JOG] to select the channel.







Cassette tapes

Preparation: Turn the unit on.

1 Press [▲ OPEN/CLOSE], insert the cassette with the tape facing in.

Make sure the cassette is fully inserted and press [▲ OPEN/CLOSE] to close the deck.

2 Switch [DOLBY NR] on or off.

(➡ "Dolby noise reduction" page 17).

3 Press [REV MODE] to select the reverse mode.

Every time the button is pressed:

⇄ → ⇉ → (⇄)

⇄ : One side is played.

⇉ : Both sides are played.

(⇄) : Both sides are played eight times each.

4 Press [◀] or [▶].

Play begins and the indicator changes to green.

▶: to play the forward side (facing up).

◀: to play the reverse side (facing down).

5 Adjust the volume.

To stop the tape

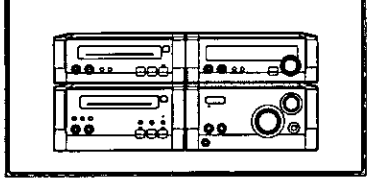
Press [■].

Cassette tape selection and care

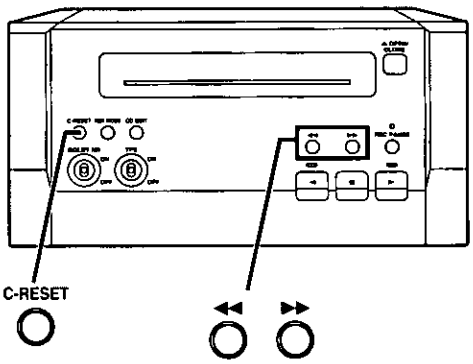
The unit can correctly play the following types. It identifies the type automatically.

Normal position/TYPE Ⅰ	O.K.
High position/TYPE Ⅱ	O.K.
Metal position/TYPE Ⅳ	O.K.

- Tapes exceeding 100 minutes are thin and can break or get caught in the mechanism.
- Tape slack can get caught up in the mechanism and should be taken up before the tape is played.
- Endless tapes can get caught up in the deck's moving parts if used incorrectly. Use tapes appropriate to this unit's auto-reverse mechanism.



A



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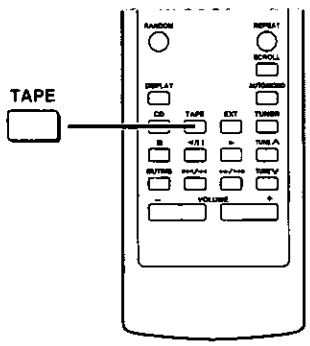
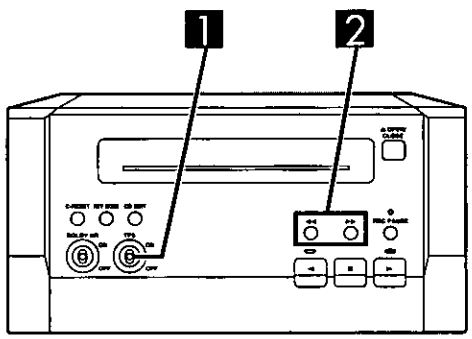
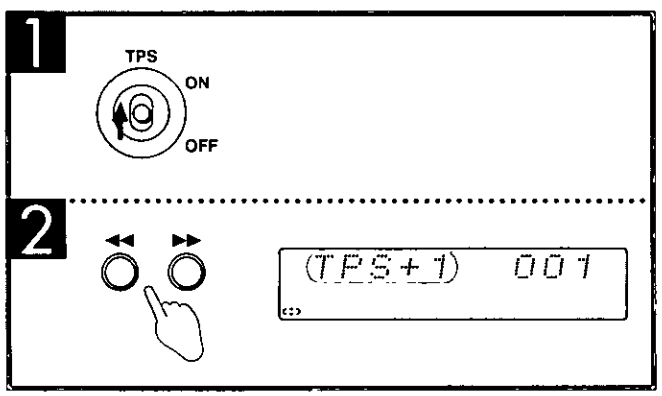


C





Cassette tapes

A Fast-forwarding and rewinding

Press [◀◀] or [▶▶] while the tape is stopped.

Tape direction	rewind	fast-forward
▶	◀◀	▶▶
◀	▶▶	◀◀

A Resetting the tape counter

Press [C-RESET].

B One touch play

Remote control only

When a cassette is loaded and the unit is off, press [TAPE].
The unit comes on and starts play in the direction last selected.

C Tape program sensor (TPS)

TPS finds the beginning of a track and resumes play from there.
Each press increases the number of tracks skipped, up to a maximum of 9.

1 During playback
Switch [TPS] on.

2 **Press [◀◀] or [▶▶].**
Each press increases the number of tracks skipped.

To cancel
Press [■].
TPS will not stop if [TPS] is switched off.

Note

- Stop the tape before changing the TPS direction.
- TPS may not operate correctly in the following situations:
  If the interval between tracks is less than 4 seconds.
  If there is noise between tracks.
  If there are silent parts within tracks.

Dolby noise reduction

Dolby NR reduces "hissing" when playing tapes. It increases the high frequency region when recording and then reduces it in playback. Use the same system during playback and recording.
This unit has Dolby B NR which reduces noise to a third.
Prerecorded cassettes and equipment marked "DD" use Dolby B NR.

Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"DOLBY" and the double-D symbol DD are trademarks of Dolby Laboratories Licensing Corporation.

Selection of tapes for recording

The unit automatically identifies the type of tape.

Normal position/TYPE Ⅰ	O.K.
High position/ TYPE Ⅱ	O.K.
Metal position/ TYPE Ⅳ	O.K.

A To display the tape counter while recording

Remote control only
Press [DISPLAY].
The counter is displayed for about five seconds.

B Erasure prevention

The illustration shows how to remove the tabs to prevent recording. To record on the tape again, cover as shown, being careful not to cover the high position discrimination hole.

Volume and sound quality

Recordings are unaffected by changes to volume and sound quality.

C Preparatory steps

Do these steps before each recording.
Wind up the leader tape so recording can begin immediately (unnecessary if CD editing).

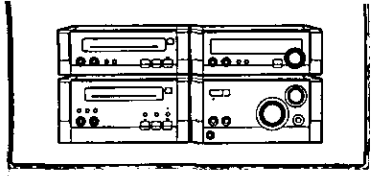
1 Press [▲ OPEN/CLOSE], insert the cassette with the tape facing in.
Make sure the cassette is fully inserted and press [▲ OPEN/CLOSE] to close the deck.

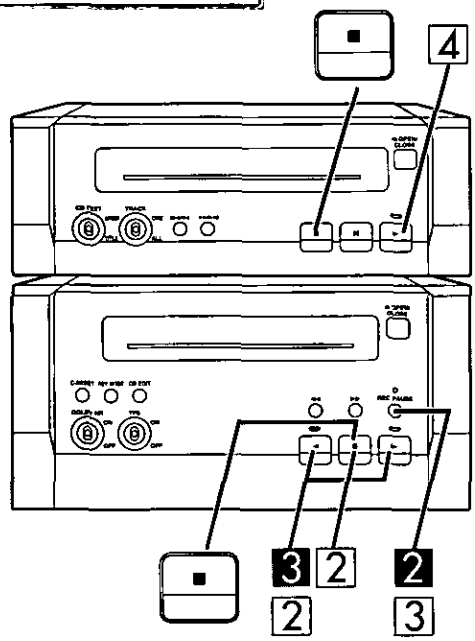
2 Switch [DOLBY NR] on or off.
(➡ "Dolby noise reduction" page 17).

3 Press [REV MODE] to select the reverse mode.
Each time you press the button:
⇄ → ⇉ → (⇄)
: One side only records.
⇉ and (⇄) : Both sides record (forward → reverse).
"(⇄)" automatically changes to "⇉" when [REC PAUSE] is pressed.

Erasing recordings

1. Press [INPUT SELECTOR (◀) or (▶)] to select "TAPE".
2. Set [DOLBY NR] to "OFF".
3. Select the reverse mode.
4. Press [REC PAUSE].
5. Press [◀] or [▶].





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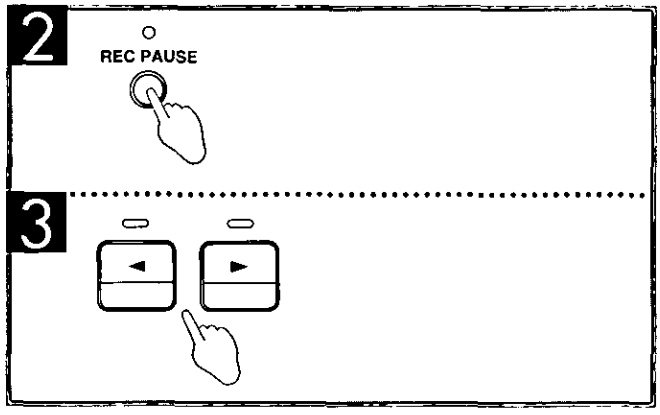

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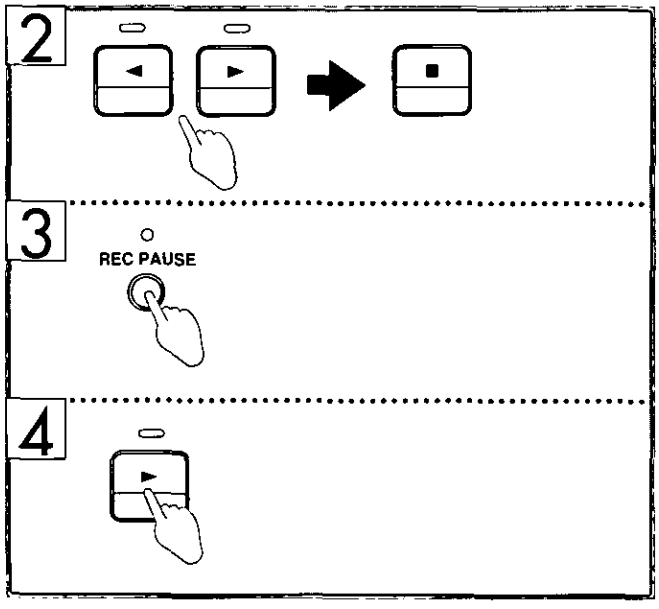


A Recording the radio

Preparation: Do the preparatory steps (➡ page 18).

1 **Tune to the required station.**
(➡ page 14 or 15).

2 **Press [REC PAUSE].**
The deck goes into the recording standby mode, the indicator above the button lights and a play indicator starts flashing.

3 **Press [◀] or [▶] to start recording.**
▶: to record on the forward side
◀: to record on the reverse side

To stop recording
Press [■].

To temporarily stop recording
1. Press [REC PAUSE].
   The deck goes into recording standby mode.
2. Press the [◀] or [▶] button with the flashing indicator to resume recording.

Recording CDs

B Normal recording

Preparation: Do the preparatory steps (➡ page 18).

1 **Insert a CD.**
(➡ page 11)

2 **Press [◀] or [▶] then [■] to set the tape direction.**
▶: to record on the forward side
◀: to record on the reverse side

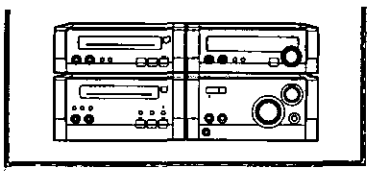
3 **Press [REC PAUSE].**
The deck goes into the recording standby mode, the indicator above the button lights and the play indicator starts flashing.

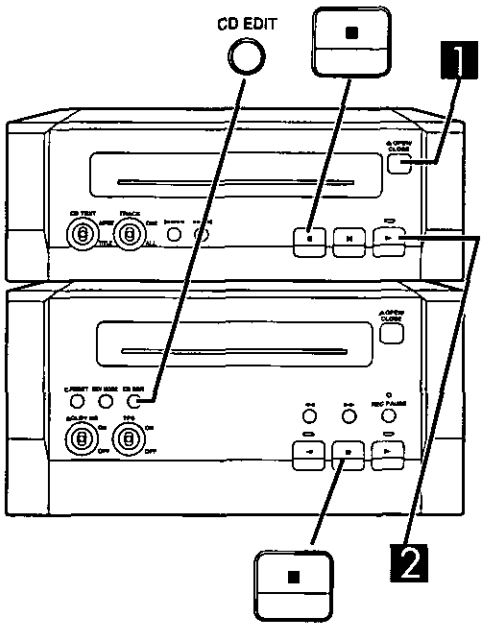
4 **Press [▶] on the CD player.**
Recording starts automatically.

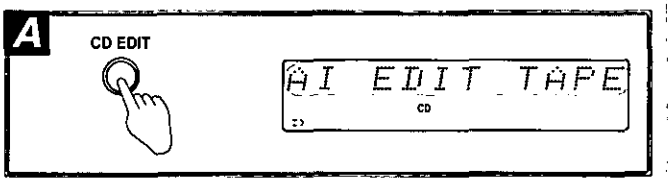
Four seconds after the CD finishes, the deck goes into the recording standby mode.

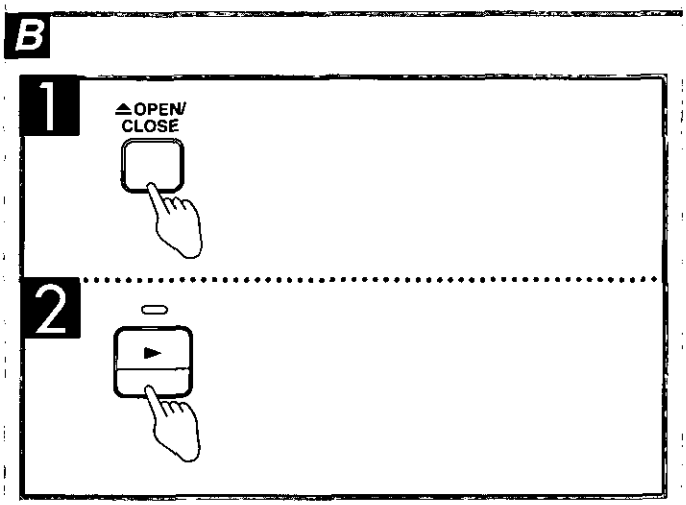
To stop recording
EITHER
Press [■] on the CD player.
The deck goes into the recording standby mode four seconds later.
OR
Press [■] on the deck.
Recording stops immediately but the CD continues to play.

To record programmed tracks.
Program tracks after step 1 (➡ page 13).









A One touch CD editing (AI EDIT)

The unit calculates the length of the tape and decides which tracks go on which side of the cassette so tracks are not cut off midway.

Preparation: Do the preparatory steps (➡ page 18).
Insert a CD

Press [CD EDIT].

The unit makes the calculations and "AI EDIT TAPE" scrolls across the display. It takes a moment for recording to start.

After the deck completes recording the CD

It goes into recording standby mode. If there is space left on the tape, "LINK C" and the remaining time on the tape flash on the display.

- If you have completed recording, press [■] on the CD player.
- If you wish to continue recording with another CD, see "Linking" below.

To stop editing

Press [■] on the deck or CD player.
"EDIT OUT" is displayed and both sections stop.

When tracks are allotted to both sides

When the tracks allotted to side A finish playing, the deck records to the end of the side to complete calculation.

Editing programmed tracks

Program the tracks (➡ page 13) and press [CD EDIT].

Note

Tracks numbered 25 or over cannot be recorded by one touch editing. Use normal recording (➡ page 19).

B Linking

If "LINK C" is flashing and you wish to continue recording from another CD, do the following.

1 Press [▲ OPEN/CLOSE] and insert another CD.

Press [▲ OPEN/CLOSE] to close the tray.

2 Press [▶] on the CD player.

The remaining time on each side is shown for a second, then recording begins again.

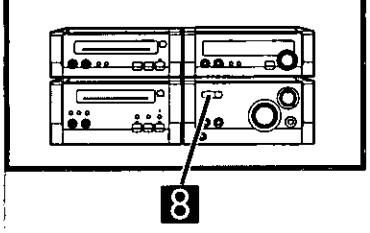
You can continue linking tracks as long as there is space on the tape. If you load a CD that has no tracks short enough to fit in the remaining space, linking cannot be done.

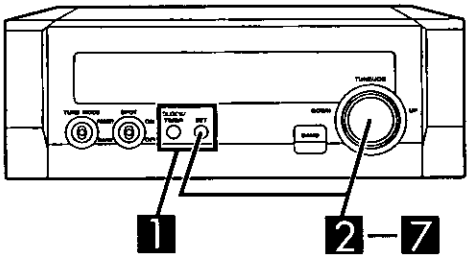
To cancel

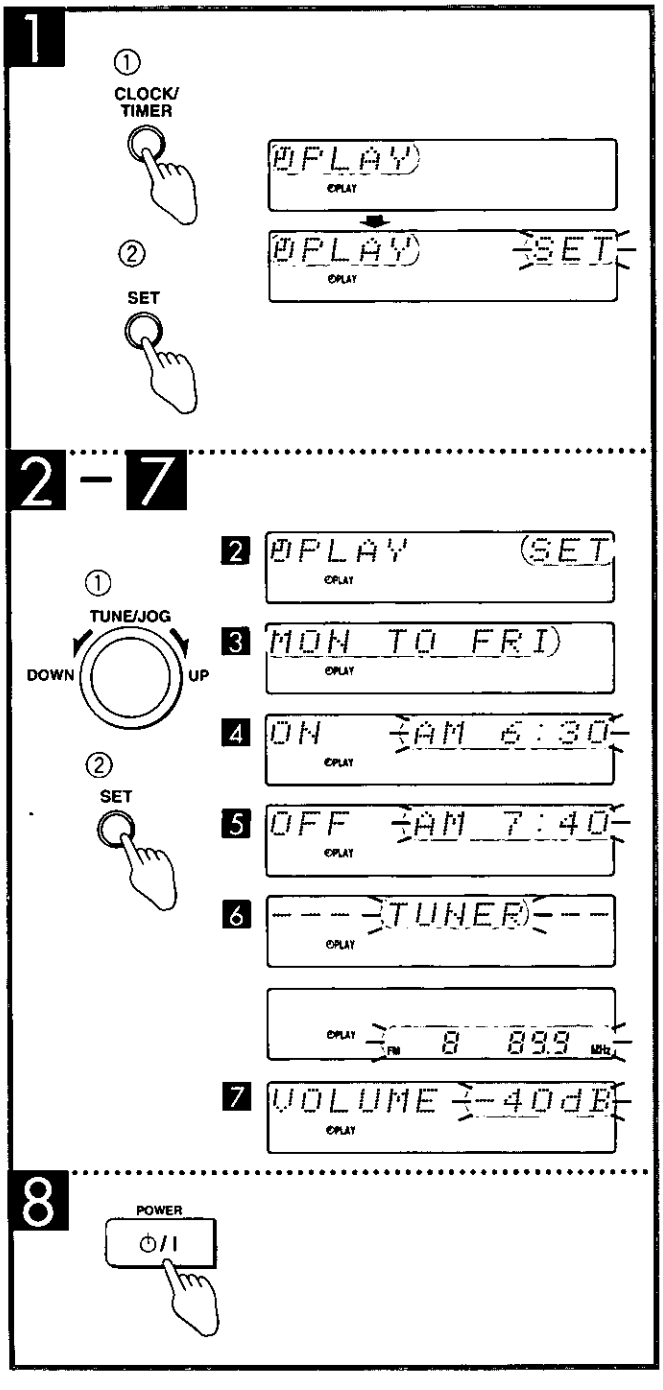
Press [■] on the CD player.
"EDIT OUT" scrolls across the display.

Linking programmed tracks

Program tracks after inserting the new CD (➡ page 13).







Using the timers

The play timer

This timer starts play of the selected source at the selected time. The example shows settings for preset radio channel 8 to play between 6:30 am. and 7:40 am., Monday to Friday at –40 dB.

Preparation: Turn the unit on, set the time (➡ page 10), preset radio stations if you want the timer to start playing the radio (➡ page 15).

1 **①Press [CLOCK/TIMER] to select "◴ PLAY."**

CLOCK → ◴ PLAY → ◴ REC → Original display

②Press [SET] within 15 seconds.

2–7

①Turn [TUNE/JOG] to select the condition required and
②press [SET].

2 Select "SET".

3 Select the day.
"SUN" ... "SAT" = One day of the week.
"SUN TO SAT" = Every day of the week.
"MON TO SAT" = Every day from Monday to Saturday.
"MON TO FRI" = Every day from Monday to Friday.
"SAT, SUN" = Saturday and Sunday only.

4 Select the start time.

5 Select the finish time.

6 Select the source.
TUNER ⇄ CD ⇄ TAPE

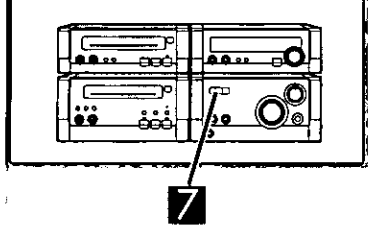
If you select TUNER
Select a preset channel.

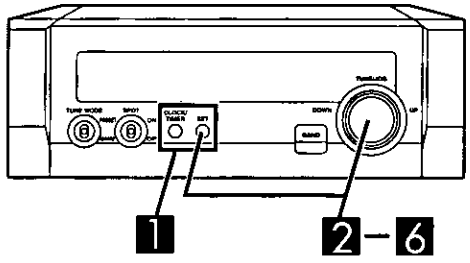
7 Select the volume.
The timer is now on standby. The display shows each condition again for 3 seconds each then restores the original display.
Confirm "◴ PLAY" is illuminated.

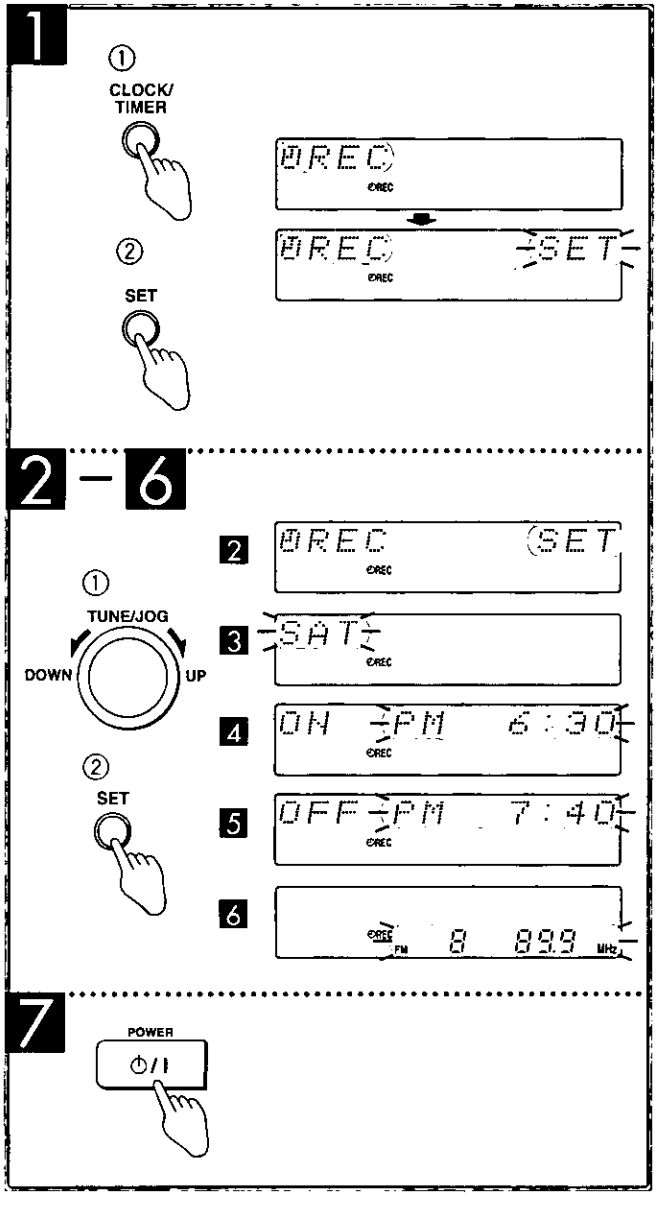
8 **Press [⏻/I] to turn the unit off.**
The timer starts at the set time with the volume increasing gradually to the set level.

To cancel the timer
Turn the unit on
On the remote control
Press [◴ PLAY] so "◴ PLAY" goes out.
On the unit
1. Press [CLOCK/TIMER] to select "◴ PLAY" and press [SET].
2. Turn [TUNE/JOG] to select "◴ PLAY CANCEL" and press [SET].

If you set the timer incorrectly
Repeat the procedure from step 1.







The record timer

This timer records the radio at the set time.
The example shows settings for recording preset channel 8 on Saturday from 6:30 pm. to 7:30 pm.
Preparation: Turn the unit on, set the time (➡ page 10), preset radio stations (➡ page 15)

1 **① Press [CLOCK/TIMER] to select "◴ REC".**

CLOCK → ◴ PLAY → ◴ REC → Original display

② Press [SET] within 15 seconds.

2–6

① Turn [TUNE/JOG] to select the condition required and
② press [SET].

2 Select "SET".

3 Select the day.
"SUN" ... "SAT" = One day of the week.
"SUN TO SAT" = Every day of the week.

4 Select the start time.

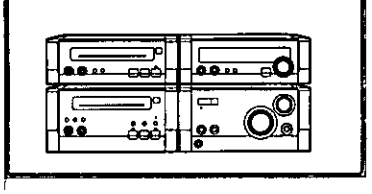
5 Select the finish time.

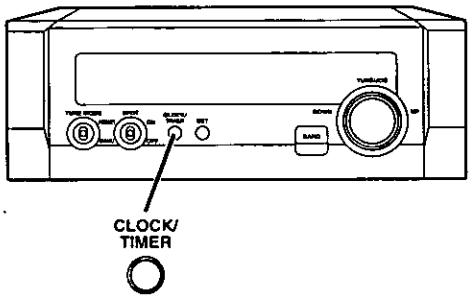
6 Select the preset channel.
The timer is now on standby. The display shows each condition again for 3 seconds each then restores the original display.
Confirm "◴ REC" is illuminated.

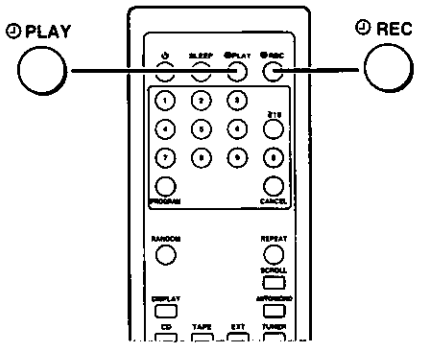
7 **Press [⏻/I] to turn the unit off.**
Recording starts 30 seconds before the set time with the volume muted during the set time.

To cancel the timer
Turn the unit on
On the remote control
Press [◴ REC] so "◴ REC" goes out.
On the unit
1. Press [CLOCK/TIMER] to select "◴ REC" and press [SET].
2. Turn [TUNE/JOG] to select "◴ REC CANCEL" and press [SET].

If you set the timer incorrectly
Repeat the procedure from step 1.







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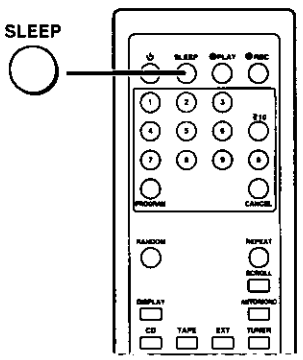
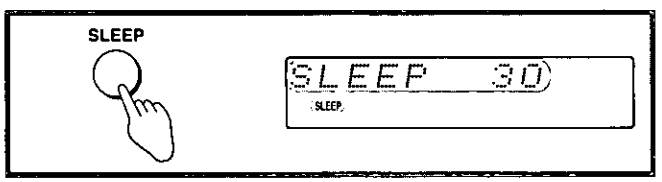




The play and record timers

Checking the timers

Press [CLOCK/TIMER] to select "◴ PLAY" (or "◴ REC")
The timer conditions are shown in the following order:
Day → start time → finish time → source → volume (or "REC TAPE")

The timers can be checked even if the unit is off.

Playing the unit after the timers are set

The unit can be used after the timers are set. Make sure the unit is off before the set start time.

Turning the timers on and off.

The timers come on at the set times if their indicators are alight before the unit is turned off. They can be turned on and off with the remote control by pressing [◴ PLAY] or [◴ REC].

Note

If the unit is turned off while a timer is functioning, the finish time setting will not be activated.

A The sleep timer

Remote control only

This timer turns the unit off after a set time.

While playing a source

Press [SLEEP] to select the time (minutes).

Each time you press the button:

SLEEP 30 → SLEEP 60 → SLEEP 90 → SLEEP 120 → SLEEP OFF → (SLEEP 30)

To cancel the sleep timer

Press [SLEEP] to select "SLEEP OFF."
"SLEEP" goes out.

To confirm the remaining time

(While the timer is functioning)
Press [SLEEP].
The remaining time is shown for about five seconds.

To change the setting

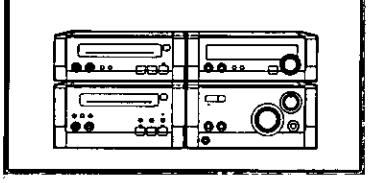
Press [SLEEP] to display the remaining time, then press again to select the required time.

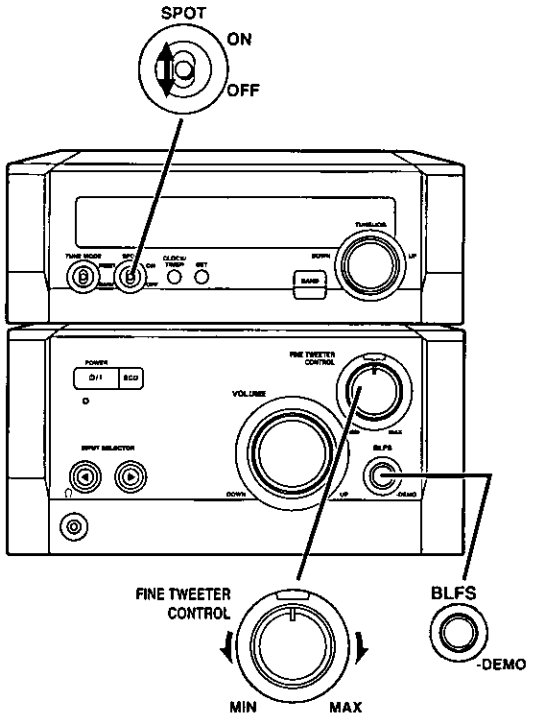
Note

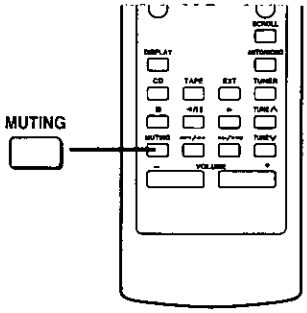
The sleep timer is turned off if one touch editing is started.

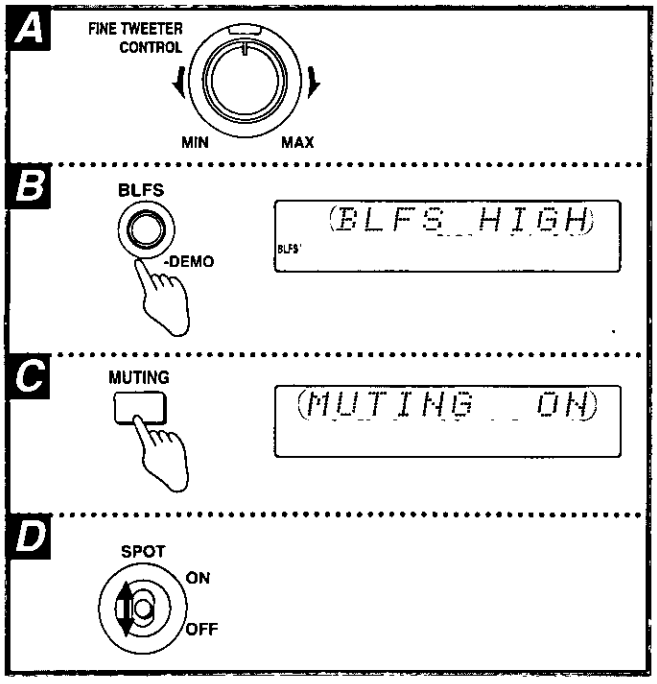
Using the timers together

Any of the timers can be used together, but ensure the unit is off before the start time for the record and play timers.









Convenient functions

A Adjusting the treble range

Fine adjustments to the treble range can be made due to separation of the tweeter and woofer.

Turn [FINE TWEETER CONTROL] to adjust sound quality.

Turn towards MAX to emphasize the treble or towards MIN to lessen the effect.

Note

The effect is not noticeable through headphones.

B Emphasizing the bass (BLFS)

BLFS (brisk low frequency sound) boosts the low frequency range to give music more power.

Press [BLFS, –DEMO].

Each time you press the button:

BLFS HIGH → BLFS LOW → BLFS OFF

To cancel

Press [BLFS, –DEMO] to select "BLFS OFF."

C Muting the volume

Remote control only

Press [MUTING].

Volume is reduced to minimum.

To cancel

Press [MUTING] again.

"MUTING OFF" is displayed and the volume is restored.

To cancel from the unit, turn [VOLUME] to minimum (- - dB), then raise it to the required level.

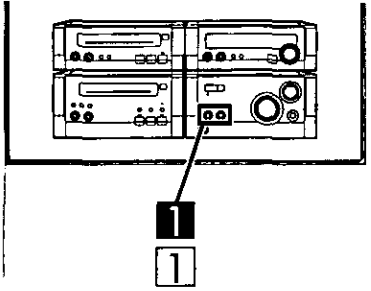
Muting is also canceled when the unit is turned off.

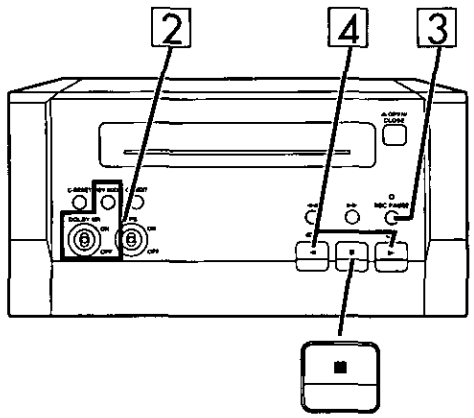
D The sidelight

Turn the sidelight on and off with [SPOT].

Note

The sidelight comes on when the demonstration (➡ page 9) starts while the unit is on even if [SPOT] is switched off.





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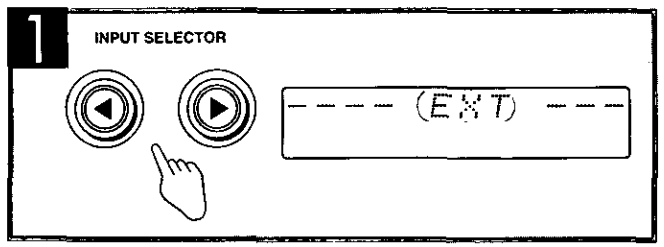

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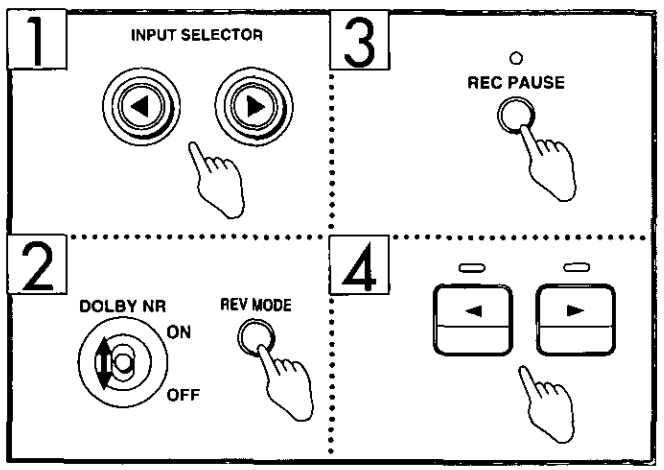

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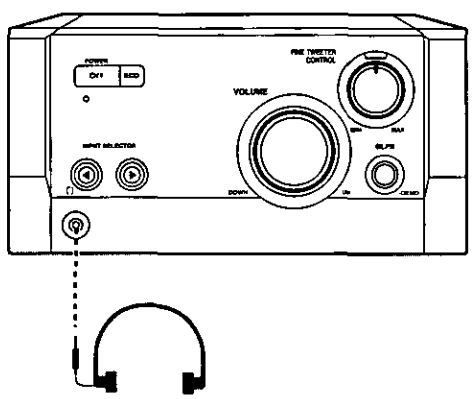

Using other equipment

A Listening to an external source

1 Press [INPUT SELECTOR (◀ or ▶)] or [EXT] on the remote control to select EXT mode.
Each time you press [INPUT SELECTOR]:

TUNER ⟷ CD ⟷ TAPE ⟷ EXT

2 Operate the unit.
See the unit's manual for details on operation and connection (➡ page 7).

B Recording an external source

1 Press [INPUT SELECTOR (◀ or ▶)] or [EXT] on the remote control to select EXT mode.

2 Select [DOLBY NR] and reverse mode.

3 Press [REC PAUSE].

4 Press [◀] or [▶] to start recording.

5 Start the source to be recorded.
See the unit's manual for details on operation and connection.

To stop recording
Press [■] on the deck.

Recording onto an external unit

Select the source to be recorded with [INPUT SELECTOR (◀ or ▶)]. Start recording on the external unit and start playing the source to be recorded.

C Using headphones (not included)

Reduce the volume before connection.
Avoid listening for long periods of time.
Plug type: 3.5 mm (1/8 in.) stereo.

Listening caution

Selecting fine audio equipment such as the unit you've just purchased is only the start of your musical enjoyment. Now it's time to consider how you can maximize the fun and excitement your equipment offers. This manufacturer and the Electronic Industries Association's Consumer Electronics Group want you to get the most out of your equipment by playing it at a safe level. One that lets the sound come through loud and clear without annoying blaring or distortion-and, most importantly, without affecting your sensitive hearing.

We recommend you to avoid prolonged exposure to excessive noise.

Sound can be deceiving. Over time your hearing "comfort level" adapts to higher volumes of sound. So what sounds "normal" can actually be loud and harmful to your hearing.
Guard against this by setting your equipment at a safe level BEFORE your hearing adapts.
To establish a safe level:
- Start your volume control at a low setting.
- Slowly increase the sound until you can hear it comfortably and clearly, and without distortion.

Once you have established a comfortable sound level:
- Set the dial and leave it there.

Taking a minute to do this now will help to prevent hearing damage or loss in the future. After all, we want you listening for a lifetime.

Product service

Do not attempt to remove the cover(s) or repair the unit yourself. Refer servicing to qualified personnel only.
The servicer will require all components to service your system. Therefore, should service ever be necessary, be sure to bring the entire system.

Product information

For product service, product information or assistance in product operation, refer to the servicenter directory.

Maintenance

If the surfaces are dirty

To clean this unit, wipe with a soft, dry cloth.
If the surfaces are extremely dirty, use a soft cloth dipped in a soap-and-water solution or a weak detergent solution.

- Never use alcohol, paint thinner or benzine to clean this unit.
- Before using chemically treated cloth, read the instructions that came with the cloth carefully.

For a cleaner crisper sound

Clean the heads after every 10 hours of use to assure good quality playback and recording. Use a cleaning tape (not included).

Troubleshooting guide

Before requesting service, make the below checks. If you can't fix the system as described below, or if something not listed here occurs, refer to the enclosed directory to locate an Authorized Service Center convenient to you or contact your dealer.

For detailed instructions, contact an authorized servicenter in the U.S.A. and Panasonic Canada Inc. Customer Care Centre in Canada.
In the U.S.A. 1-800-211-7262 or web site (http://www.panasonic.com)
In Canada 905-624-5505 or web site (www.panasonic.ca)

Reference pages are shown as black circled numbers ❻.

Common Problems

No sound.	Turn the volume up. The speaker cords may be shorted. Turn the unit off, check and correct the connections and turn the unit on. ❻
Sounds unfixed, reversed or come from one speaker only	Check the speaker connections. ❺
Humming heard during play	A power cord or fluorescent light is near the cables. Keep other appliances and cords away from this unit's cables.
"ERROR" is displayed.	Incorrect operation performed. Read the instructions and try again.
"U70" is displayed	Connect the flat cables firmly. If "U70" remains on the display, contact the dealer.
"F61" is displayed.	There is a problem with the amplifier. Consult your dealer.
ECO mode on but display still lights up in standby mode.	Turn DEMO off. ❾

Listening to the radio

Noise is heard. **The stereo indicator flickers or doesn't light.** **Sound is distorted.**	Use an outdoor antenna. ❼
A beat sound is heard.	Turn the TV off or separate it from the unit.
A low hum is heard during AM broadcasts.	Separate the antenna from other cables and cords.
The correct FM frequency can't be tuned in.	Change the frequency step. ⓮

The cassette deck

Poor quality sound.	Clean the heads. ㉘ Check the Dolby NR setting. ⓰ ⓱
Recording is not possible.	If the erasure prevention tabs have been removed, cover the holes with adhesive tape. ⓲

The CD player

The display is wrong or play won't start.	The disc may be upside down. ⓫ Wipe the disc. Replace the disc if it is scratched, warped, or nonstandard. ⓫ Condensation may have formed in the player due to a sudden change in temperature. Wait about an hour for it to clear and try again.

During "One-touch" editing (➡ Page 20)

"NO TAPE" is displayed.	Load a cassette. ⓯
"CHANGE TAPE" is displayed.	If the erasure prevention tabs have been removed, cover the holes with adhensive tape. ⓲

The remote control

The remote control doesn't work.	Check the batteries are inserted correctly. ❺ Replace the batteries if they are worn.

All components are required to service the system. If service is ever necessary, bring the entire system.

Technical specifications

TUNER

■ **Pre-amplifier section**

Input sensitivity/impedance
EXT IN 300 mV/15 kΩ
Output level/impedance
EXT OUT 250 mV/1.5 kΩ

■ **Tuner section**

FM frequency range
87.9–107.9 MHz (0.2 MHz step)
87.5–108.0 MHz (0.1 MHz step)
FM antenna terminal 75 Ω unbalanced
AM frequency range
520–1710 kHz (10 kHz steps)

■ **Timer section**

Clock Quartz lock type
Function Play timer: 1 time or everyday
Rec timer: 1 time or everyday
Sleep timer: 120 min, 30 min intervals

■ **GENERAL**

Dimensions (W×H×D)
202×76×262.5 mm
(7–15/16"×2–31/32"×10–11/32")
Weight 1.2 kg (2.7 lb)

AMPLIFIER

■ **Amplifier section**
(Low frequency side)

Power output
40–5500 Hz, THD 1 %, 6 Ω
both channel driven 2×10 W
Total harmonic distortion
Half power at 1 kHz, 6 Ω 0.09 %
S/N 75 dB
Load impedance 6 Ω

■ **Amplifier section**
(High frequency side)

Power output
5500–16000 Hz, THD 1 %, 6 Ω
both channel driven 2×5 W
S/N 75 dB
Load impedance 6 Ω

■ **Headphones**

Jack type 3.5 mm (1/8") STEREO
Load impedance 16–32 Ω

■ **General**

Power supply AC 120 V, 60 Hz
Power consumption 68 W
STANDBY condition
Normal 9 W
Eco 0.8 W
Dimensions (W×H×D)
202×104.5×277 mm
(7–15/16"×4–1/8"×10–28/32")
Weight 3.5 kg (7.7 lb)

CD PLAYER

Digital output terminal Optical×1

■ **Audio section**

DA converter 1 bit 2 DAC MASH

■ **Format**

Sampling frequency 44.1 kHz

■ **Pickup**

Wavelength 780 nm

■ **General**

Dimensions (W×H×D)
202×76×254 mm
(7–15/16"×2–31/32"×10")
Weight 1.4 kg (3.1 lb)

CASSETTE DECK

■ **Audio section**

Track system 4 track 2 channel STEREO
Frequency response (NR off)
TYPE Ⅰ (NORMAL) 30 Hz–16 kHz
TYPE Ⅱ (HIGH) 30 Hz–16 kHz
TYPE Ⅳ (METAL) 30 Hz–16 kHz
S/N (TYPE Ⅱ)
NR off 56 dB
Dolby B NR 64 dB

■ **Motor**

Capstan drive DC servo motor
Reel table drive DC motor
Fast forward and rewind time (C–60)
Approx. 52 seconds
Wow and flutter 0.1% (WRMS)

■ **General**

Dimensions (W×H×D)
202×104.5×271 mm
(7–15/16"×4–1/8"×10–11/16")
Weight 1.6 kg (3.5 lb)

SPEAKER SYSTEM

Type 2 way, 2 speaker, bass-reflex system
Speaker (s)
Woofer: 12 cm (4–3/32") cone type
Tweeter: 2.5 cm (1") semi-dome type
Impedance 6 Ω
Input power
High 30 W (Music), 15 W (DIN)
LOW 60 W (Music), 30 W (DIN)
Output sound pressure level
90 dB/W (1.0 m)
Cross over frequency 5.5 kHz
Frequency range 55 Hz–50 kHz (–16 dB)
65 Hz–46 kHz (–10 dB)

■ **General**

Dimensions (W×H×D)
175×287×225 mm
(7–3/32"×11–3/32"×8–7/8")
Weight 3.9 kg (8.7 lb)

Notes:

1. Specifications are subject to change without notice.
   Weight and dimensions are approximate.
2. Total harmonic distortion is measured by the digital spectrum analyzer.

This manual was printed with soy based ink.

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